



EOG Resources, Inc.
600 Seventeenth Street
Suite 1000N
Denver, CO 80202
Main: 303-572-9000
Fax: 303-824-5400

July 20, 2015

Attn: Cole Anderson, NSR Program Manager
Wyoming Department of Environmental Quality
Air Quality Division
Herschler Building, 2-E
122 West 25th Street
Cheyenne, Wyoming 82002

RE: EOG Resources, Inc.
Air Permit Application – Equipment Update at Fairway CS and Water Transfer Facility
Laramie County, Wyoming

Dear Mr. Anderson:

EOG Resources, Inc. (EOG) is submitting the enclosed application to update the equipment list at the Fairway Compressor Station to reflect the as built configuration by accounting for two (2) existing 0.50 MMBtu/hr tank heaters which were not included in the original permit application. This application is also requesting to include five (5) 6,000 gallon chemical storage tanks and an additional 400-bbl condensate storage tank with a 0.50 MMBtu/hr heater, include emissions associated with condensate liquid production, and to also include 500 hours of flaring due to routine maintenance. Emissions from the facility have been updated using new gas and condensate samples.

In addition, EOG is requesting to add a water transfer facility at the Fairway Compressor Station to store produced water from the wells in the surrounding field. This produced water will be stored in five (5) 500-bbl tanks prior to being pumped either to frac operations at new wells in the field or to the disposal facility in Colorado. The liquid in the tanks will be blanketed with natural gas and any emissions from the tanks will be routed to a 48" x 12' Cimarron enclosed combustion device for destruction. The transfer facility will also have a 0.25 MMBtu/hr line heater. This facility will handle up to 20,000-bbls per day of produced water.

The Fairway Compressor Station and Water Transfer Facility is located in the SW1/4NE1/4 of Section 36, T13N, R65W approximately thirteen (13) miles east-southeast of Cheyenne, in Laramie County, Wyoming.

Attachment A contains a flow diagram/plot plan of the facility. Gas and oil analyses from the inlet of the compressor station are contained in Attachment B, and detailed emission calculations and supporting documentation are provided in Attachment C.

We trust the attached permit application package will meet your expectations and that you will not hesitate to call me at (303) 262-9946 or Mark Smith at (307) 823-6208 if you have any questions or need additional information. We appreciate your prompt attention to this most important project.

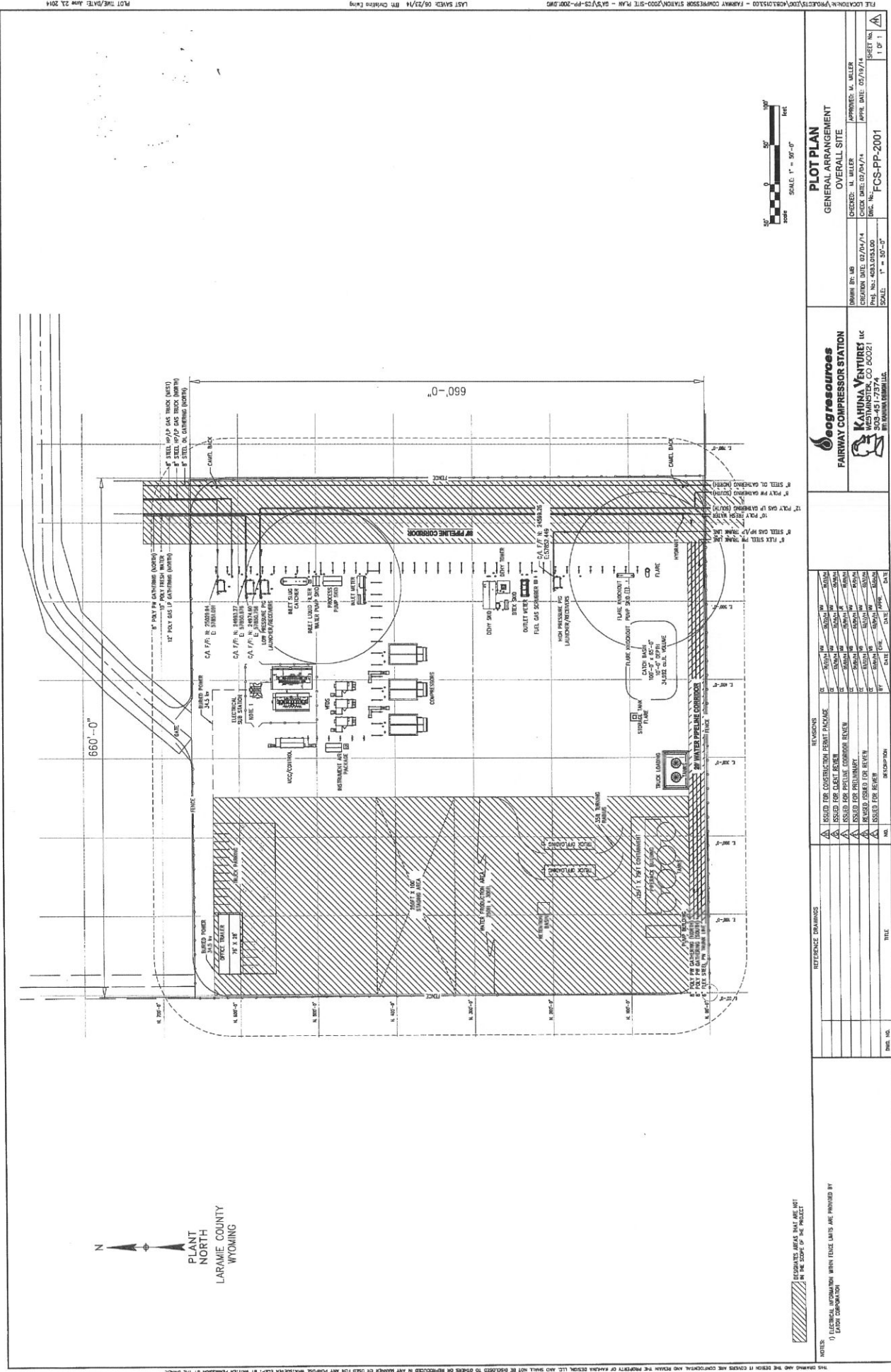
Sincerely,

Curtis Rice
EOG Environmental – Denver Division

cc: File – Well
Attachments: As stated

July 20, 2015

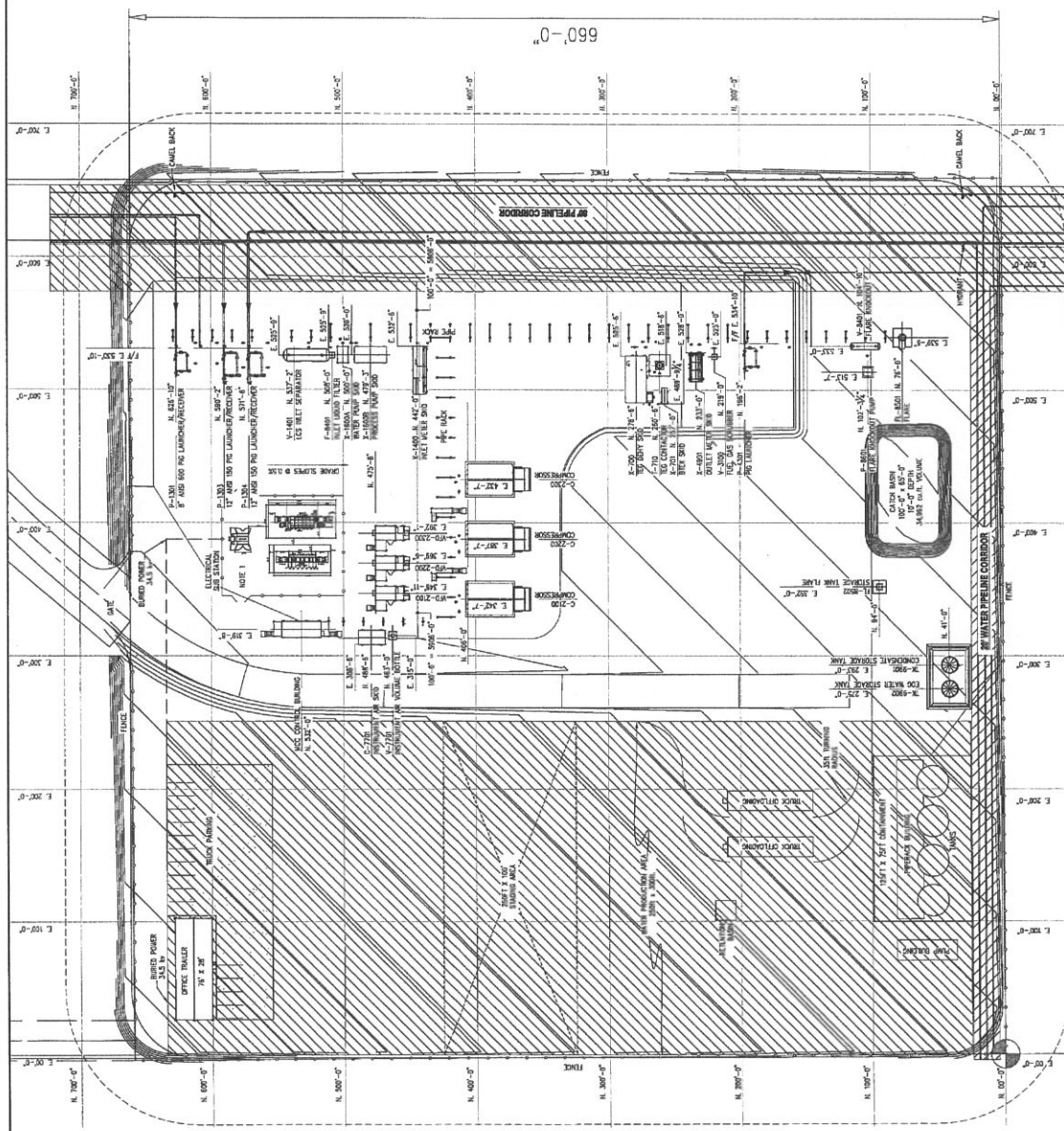
**Attachment A – Flow Diagram and Plot Plan of Emission Units
and/or Facility**




REVISIONS		DATE	DESCRIPTION
1	ISSUED FOR CONSTRUCTION PERMIT PACKAGE	05/18/14	
2	ISSUED FOR PERMIT REVIEW	05/18/14	
3	ISSUED FOR PERMIT REVIEW	05/18/14	
4	ISSUED FOR PERMIT REVIEW	05/18/14	
5	ISSUED FOR PERMIT REVIEW	05/18/14	
6	ISSUED FOR PERMIT REVIEW	05/18/14	
7	ISSUED FOR PERMIT REVIEW	05/18/14	
8	ISSUED FOR PERMIT REVIEW	05/18/14	
9	ISSUED FOR PERMIT REVIEW	05/18/14	
10	ISSUED FOR PERMIT REVIEW	05/18/14	

DATE	NO.	TITLE
05/18/14	1	ISSUED FOR CONSTRUCTION PERMIT PACKAGE
05/18/14	2	ISSUED FOR PERMIT REVIEW
05/18/14	3	ISSUED FOR PERMIT REVIEW
05/18/14	4	ISSUED FOR PERMIT REVIEW
05/18/14	5	ISSUED FOR PERMIT REVIEW
05/18/14	6	ISSUED FOR PERMIT REVIEW
05/18/14	7	ISSUED FOR PERMIT REVIEW
05/18/14	8	ISSUED FOR PERMIT REVIEW
05/18/14	9	ISSUED FOR PERMIT REVIEW
05/18/14	10	ISSUED FOR PERMIT REVIEW

NOTES:
1) ELEVATIONS SHOWN WITHIN FENCE LINES ARE PROVIDED BY THE OWNER.
2) ELEVATIONS SHOWN WITHIN FENCE LINES ARE PROVIDED BY THE OWNER.
3) ELEVATIONS SHOWN WITHIN FENCE LINES ARE PROVIDED BY THE OWNER.
4) ELEVATIONS SHOWN WITHIN FENCE LINES ARE PROVIDED BY THE OWNER.
5) ELEVATIONS SHOWN WITHIN FENCE LINES ARE PROVIDED BY THE OWNER.
6) ELEVATIONS SHOWN WITHIN FENCE LINES ARE PROVIDED BY THE OWNER.
7) ELEVATIONS SHOWN WITHIN FENCE LINES ARE PROVIDED BY THE OWNER.
8) ELEVATIONS SHOWN WITHIN FENCE LINES ARE PROVIDED BY THE OWNER.
9) ELEVATIONS SHOWN WITHIN FENCE LINES ARE PROVIDED BY THE OWNER.
10) ELEVATIONS SHOWN WITHIN FENCE LINES ARE PROVIDED BY THE OWNER.



N



PLANT
NORTH
LARAMIE COUNTY
WYOMING

0' 40' 80' feet
SCALE: 1" = 40'-0"



1) ELECTRICAL INFORMATION WITHIN FENCE LIMITS ARE PROVIDED BY
EATON CORPORATION

2) EQUIPMENT LOCATION COORDINATES ARE BASED OFF OF PROJECT PLAN

REFERENCE DRAWINGS		REVISIONS	
NO.	DATE	NO.	DATE
		1	ISSUED FOR CONSTRUCTION PERMIT PACKAGE
		2	ISSUED FOR CLIENT REVIEW
		3	ISSUED FOR PRELIMINARY
		4	
		5	
		6	
		7	
		8	
		9	
		10	
		11	
		12	
		13	
		14	
		15	
		16	
		17	
		18	
		19	
		20	
		21	
		22	
		23	
		24	
		25	
		26	
		27	
		28	
		29	
		30	
		31	
		32	
		33	
		34	
		35	
		36	
		37	
		38	
		39	
		40	
		41	
		42	
		43	
		44	
		45	
		46	
		47	
		48	
		49	
		50	
		51	
		52	
		53	
		54	
		55	
		56	
		57	
		58	
		59	
		60	
		61	
		62	
		63	
		64	
		65	
		66	
		67	
		68	
		69	
		70	
		71	
		72	
		73	
		74	
		75	
		76	
		77	
		78	
		79	
		80	
		81	
		82	
		83	
		84	
		85	
		86	
		87	
		88	
		89	
		90	
		91	
		92	
		93	
		94	
		95	
		96	
		97	
		98	
		99	
		100	

geog resources
FAIRWAY COMPRESSOR STATION

KAHUNA VENTURES LLC
WESTMINSTER, CO 80021
303-451-7374
BIO KAHUNA DESIGN LLC

 Fairway Resources FAIRWAY COMPRESSOR STATION	PLOT PLAN EQUIPMENT LOCATION PLAN			
	STATE OF CO. PERMID COMPLETION DATE 03/29/2014 PERM. NO. 43831533.00 SCALE: 1" = 40'-0"	DESIGNED: M. MILLER DATE: 02/26/2014	APPROVED: M. MILLER DATE: 03/26/2014	SHEET NO. 1 OF 1
 KAHUNA VENTURES LLC WESTMINSTER, CO 80021 10000 W. 10TH AVE. WESTMINSTER, CO 80021	FCS-PP-2100			

July 20, 2015

Attachment B – Gas/Oil Analyses



GAS MEASUREMENT EMISSIONS TESTING LABORATORY
307.856.0866
www.precision-labs.com

Client:	EOG Resources	Analysis Date:	2/6/2015
Sample ID:	Fairway LCS Inlet	Date Sampled:	2/6/2015
Unique #:	0	Purpose:	NI
Sample Temperature:	44.5 DEG F	Sample Pressure:	48.5 PSI
Sampled By:	Don Heesch	Type Sample:	SPOT
County:	Laramie		

Components	Mole %	Weight %	Liq. Vol. %
Carbon Dioxide.....	2.6062	4.136	2.082
Nitrogen.....	0.9044	0.914	0.466
Methane.....	60.5243	35.017	48.037
Ethane.....	12.5469	13.606	15.709
Propane.....	12.6560	20.126	16.324
iso-Butane.....	1.3642	2.860	2.090
n-Butane.....	4.9501	10.376	7.306
iso-Pentane.....	1.0322	2.686	1.767
n-Pentane.....	1.2482	3.248	2.118
Cyclopentane.....	0.0942	0.238	0.131
n-Hexane.....	0.4213	1.309	0.811
Cyclohexane.....	0.2358	0.716	0.375
Other Hexanes	0.4817	1.497	0.927
Heptanes.....	0.6081	2.197	1.313
Methylcyclohexane.....	0.1090	0.386	0.205
2,2,4-Trimethylpentane...	0.0002	0.001	0.000
Benzene.....	0.1382	0.389	0.181
Toluene.....	0.0386	0.128	0.060
Ethylbenzene.....	0.0020	0.008	0.004
Xylenes.....	0.0045	0.017	0.008
Octanes.....	0.0258	0.106	0.062
Nonanes.....	0.0061	0.028	0.016
Decanes+.....	0.0021	0.011	0.006
Totals	100.000	100.000	100.000

ADDITIONAL BTEX DATA

Components	Mole %	Weight %	Liq. Vol. %
Cyclopentane	0.094	0.238	0.131
Cyclohexane	0.236	0.716	0.375
2-Methylpentane	0.303	0.942	0.584
3-Methylpentane	0.179	0.555	0.344
n-Hexane	0.421	1.309	0.811
Methylcyclohexane	0.109	0.386	0.205
2,2,4-Trimethylpentane	0.000	0.001	0.000
Benzene	0.138	0.389	0.181
Toluene	0.039	0.128	0.060
Ethylbenzene	0.002	0.008	0.004
m-Xylene	0.001	0.003	0.001
p-Xylene	0.003	0.012	0.005
o-Xylene	0.001	0.003	0.001

SPECIFIC GRAVITY @ 60/60 F, calculated.....	0.9574
TOTAL GPM (Ethane Inclusive).....	10.522
CALCULATED BTU / REAL CF @ 14.73 PSIA, dry basis.....	1565.088
CALCULATED BTU / REAL CF @ 14.73 PSIA, wet basis.....	1538.579
AVERAGE MOLECULAR WEIGHT.....	27.729
MOLAR MASS RATIO.....	0.9570
RELATIVE DENSITY (G x Z (Air) / Z), calculated.....	0.9637
IDEAL GROSS HEATING VALUE, BTU / IDEAL CF @ 14.696 PSIA.....	1551.238
COMPRESSIBILITY FACTOR (Z).....	0.99343

PROPANE GPM	3.4778
BUTANE GPM	2.0019
GASOLINE GPM (PENTANE AND HEAVIER)	1.6952
VOC WEIGHT FRACTION	0.463

NOTATION: ALL CALCULATIONS PERFORMED USING PHYSICAL CONSTANTS FROM GPA 2145-09, THE TABLES OF PHYSICAL CONSTANTS FOR HYDROCARBONS AND OTHER COMPOUNDS OF INTEREST TO THE NATURAL GAS INDUSTRY.



GAS MEASUREMENT EMISSIONS TESTING LABORATORY
307.856.0866
www.precision-labs.com

**EXTENDED HYDROCARBON LIQUID STUDY
CERTIFICATE OF ANALYSIS**

Company: **EOG Resources-DJ Basin** Sample Name: **Condensate Fairway
Compressor Station Outlet**

Date Sampled: 05/13/2015 Sample Number: 15051810-02
Sample Location: Colorado Date Tested: 05/18/2015
Sample Pressure: 25 PSI Test Method: GPA 2186M
Sample Temperature: 73 DEG F
County: Weld Date Reported: 05/20/2015
Sample Source: Separator Outlet Note: Due to the nature of H₂S, the values of
Sampling Method: GPA-2174 H₂S reported may be lower than actual.
Type Sample: SPOT

Components	Mole %	Weight %	Liq. Vol. %
Hydrogen Sulfide	0.0000	0.000	0.000
Oxygen	0.0000	0.000	0.000
Carbon Dioxide	0.6524	0.327	0.271
Nitrogen	0.0577	0.018	0.015
Methane	1.1139	0.203	0.460
Ethane	2.0732	0.709	1.352
Propane	5.2406	2.629	3.520
iso-Butane	1.4738	0.975	1.176
n-Butane	8.4355	5.579	6.483
iso-Pentane	5.5618	4.566	4.959
n-Pentane	9.3226	7.654	8.238
Hexanes	8.7403	8.570	8.762
Heptanes	22.8087	26.006	25.654
Octanes	11.2371	14.606	14.034
Nonanes	2.2733	3.318	3.119
Decanes+	1.9549	4.933	4.105
Benzene	1.3291	1.181	0.906
Toluene	5.5196	5.787	4.504
Ethylbenzene	0.3913	0.473	0.368
Xylenes	2.0472	2.473	1.939
n-Hexane	8.4654	8.301	8.487
2,2,4-Trimethylpentane	1.3016	1.692	1.649
Totals	100.000	100.000	100.000

ADDITIONAL BTEX DATA

Components	Mole %	Weight %	Liq. Vol. %
2-Methylpentane	6.249	6.128	6.265
3-Methylpentane	2.491	2.443	2.497
n-Hexane	8.465	8.301	8.487
2,2,4-Trimethylpentane	1.302	1.692	1.649
Benzene	1.329	1.181	0.906
Toluene	5.520	5.787	4.504
Ethylbenzene	0.391	0.473	0.368
m-Xylene	0.235	0.284	0.223
p-Xylene	1.464	1.768	1.386
o-Xylene	0.348	0.420	0.330

RELATIVE SPECIFIC GRAVITY OF DECANES+ (C10+) FRACTION, calculated	0.81583
AVERAGE MOLECULAR WEIGHT	87.883
AVERAGE MOLECULAR WEIGHT OF DECANES+ (C10+) FRACTION, calculated	221.759
TRUE VAPOR PRESSURE AT 100 F, PSIA, calculated	91.595
AVERAGE BOILING POINT, F, calculated	154.684
CUBIC FEET OF GAS / GALLON OF LIQUID, as Ideal Gas, calculated	24.634
BTU / GALLON OF LIQUID AT 14.73 PSIA, calculated	115,985.04
LBS / GALLON OF LIQUID, calculated	5.660

NOTATION: ALL CALCULATIONS PERFORMED USING PHYSICAL CONSTANTS FROM GPA 2145-09, THE TABLES OF PHYSICAL CONSTANTS FOR HYDROCARBONS AND OTHER COMPOUNDS OF INTEREST TO THE NATURAL GAS INDUSTRY.

**FLASHED CRUDE OIL LIQUID STUDIES
CERTIFICATE OF ANALYSIS**

Sample Name: **Condensate Fairway Compressor Station Outlet**
Sample Number: 15051810-02

TEST PERFORMED	RESULTS	DATE TESTED
API GRAVITY AT 60/60 F, (ASTM D-7777), calculated from SG	66.5	05/20/2015
REID VAPOR PRESSURE (ASTM D5191), PSI AT 100 F, measured	10.41	05/20/2015

July 20, 2015

Attachment C – Emissions Calculations and Supporting Documentation

Well Name:		Composite Gas Analysis			
Date Sampled:		Fairway CS Inlet			
Component:		2/6/2015			
Hydrogen Sulfide (H2S)	mol%	mol%	M.W.	(mol% X MW)/100	WT%
Oxygen (O2)	0.0000	0.0000	34.08	0.0000	0.00000
Carbon Dioxide (CO2)	0.0000	0.0000	32.00	0.0000	0.00000
Nitrogen (N2)	2.6062	2.6062	44.01	1.1470	0.04137
Methane (C1)	0.9044	0.9044	28.02	0.2534	0.00914
Ethane (C2)	60.5243	60.5243	16.04	9.7081	0.35019
Propane (C3)	12.5469	12.5469	30.07	3.7729	0.13609
iso-Butane (i-C4)	12.6560	12.6560	44.09	5.5800	0.20128
n-Butane (nC-4)	1.3642	1.3642	58.12	0.7929	0.02860
iso-Pentane (i-C5)	4.9501	4.9501	58.12	2.8770	0.10378
n-Pentane (n-C5)	1.0322	1.0322	72.15	0.7447	0.02686
Cyclopentane	1.2482	1.2482	72.15	0.9006	0.03249
n-Hexane (n-C6)	0.0942	0.0942	70.1	0.0660	0.00238
Cyclohexane	0.4213	0.4213	86.17	0.3630	0.01310
Other Hexanes	0.2358	0.2358	84.16	0.1984	0.00716
Heptanes	0.4817	0.4817	85.00	0.4094	0.01477
Methylcyclohexane	0.6081	0.6081	100.20	0.6093	0.02198
2,2,4-Trimethylpentane	0.1090	0.1090	98.18	0.1070	0.00386
Benzene	0.0002	0.0002	114.22	0.0002	0.00001
Toluene	0.1382	0.1382	78.11	0.1079	0.00389
Ethylbenzene	0.0386	0.0386	92.14	0.0356	0.00128
Xylene	0.0020	0.0020	106.17	0.0021	0.00008
Octanes	0.0045	0.0045	106.17	0.0048	0.00017
Nonanes	0.0258	0.0258	120.00	0.0310	0.00112
Decanes+	0.0061	0.0061	128.26	0.0078	0.00028
Total	0.0021	0.0021	142.29	0.0030	0.00011
	100.000	100.0001	M.W.=	27.72	
Temperature (F)	44.5	44.50			
Pressure (psig)	48.5	48.50			
Molecular WT	27.729	27.73			
Higher Heating Value (Btu/scf)	1565.09	1565.09			
Total VOC Weight Percent		46.32			
Total HAP Weight Percent		1.85			

Well Name:	Fairway CS	Composite
Date Sampled:	5/18/2015	
Component:	mole%	mole %
Hydrogen Sulfide (H2S)	0.0000	0.0000
Oxygen (O2)	0.0000	0.0000
Carbon Dioxide (CO2)	0.6524	0.6524
Nitrogen (N2)	0.0577	0.0577
Methane (C1)	1.1139	1.1139
Ethane (C2)	2.0732	2.0732
Propane (C3)	5.2406	5.2406
iso-Butane (i-C4)	1.4738	1.4738
n-Butane (nC-4)	8.4355	8.4355
iso-Pentane (i-C5)	5.5618	5.5618
n-Pentane (n-C5)	9.3226	9.3226
2-Methylpentane (C6)	6.2490	6.2490
3-Methylpentane (C6)	2.4910	2.4910
Heptanes (C7)	22.8087	22.8087
Octanes (C8)	11.2371	11.2371
Nonanes (C9)	2.2733	2.2733
Benzene	1.3291	1.3291
Toluene	5.5196	5.5196
Ethylbenzene	0.3913	0.3913
m-Xylene	0.2350	0.2350
p-Xylene	1.4640	1.4640
o-Xylene	0.3480	0.3480
n-Hexane	8.4654	8.4654
2,2,4-Trimethylpentane	1.3016	1.3016
Decanes+ (C10+)	1.9549	1.9549
Total	100.000	100.000
MW C10+	221.7590	221.7590
Specific Gravity C10+	0.8158	0.8158
API Gravity (sales oil)	66.5	66.5000
RVP (sales oil)	10.41	10.4100
Temperature (F)	73	73.0
Pressure (psig)	25	25.0

AP-42 Emission Factors for Natural Gas Combustion, Table 1.4-1

Process Unit:	Heat Input Rating	
Reboiler Heater	0.600	MMBtu/hr
Tank Heater	0.500	MMBtu/hr
Tank Heater	0.500	MMBtu/hr
Tank Heater	0.500	MMBtu/hr
Line Heater	0.250	MMBtu/hr
NA	0.000	MMBtu/hr
NA	0.000	MMBtu/hr
NA	0.000	MMBtu/hr
NA	0.000	MMBtu/hr
NA	0.000	MMBtu/hr
Fuel Heat Value:	1565.1	Btu/scf
Annual Operating Hours:	8760	hrs
NO _x Emissions =	1.5	TPY
CO Emissions =	1.3	TPY
VOC Emissions=	0.1	TPY

	Fuel Consumed (Comb. Size, MMBtu/hr Heat Input)
	Natural Gas
NO _x	100
CO	84
VOC	5.5

Estimated Heater NOx Emissions								
Heater Number	Heater Rating	Emissions Factor	Emissions Factor	Fuel Heat Value	Corrected Emissions Factor	Operating Hours	Estimated Emissions	
(#)	(MMBtu/hr)	(lb/MMCF)	(lb/hr)	(Btu/scf)	(lb/hr)	(hrs)	(TPY)	
1	0.600	100	0.059	1565	0.090	8760	0.395	
2	0.500	100	0.049	1565	0.075	8760	0.329	
3	0.500	100	0.049	1565	0.075	8760	0.329	
4	0.500	100	0.049	1565	0.075	8760	0.329	
5	0.250	100	0.025	1565	0.038	8760	0.165	
6	0.000	100	0.000	1565	0.000	8760	0.000	
7	0.000	100	0.000	1565	0.000	8760	0.000	
8	0.000	100	0.000	1565	0.000	8760	0.000	
9	0.000	100	0.000	1565	0.000	8760	0.000	
10	0.000	100	0.000	1565	0.000	8760	0.000	
					Total NO _x Emissions =		1.5	TPY
					Total NO _x Emissions =		0.35	lb/hr

Estimated Heater CO Emissions								
Heater Number	Heater Rating	Emissions Factor	Emissions Factor	Fuel Heat Value	Corrected Emissions Factor	Operating Hours	Estimated Emissions	
()	(MMBtu/hr)	(lb/MMCF)	(lb/hr)	(Btu/scf)	(lb/hr)	(hrs)	(TPY)	
1	0.600	84	0.049	1565	0.076	8760	0.332	
2	0.500	84	0.041	1565	0.063	8760	0.277	
3	0.500	84	0.041	1565	0.063	8760	0.277	
4	0.500	84	0.041	1565	0.063	8760	0.277	
5	0.250	84	0.021	1565	0.032	8760	0.138	
6	0.000	84	0.000	1565	0.000	8760	0.000	
7	0.000	84	0.000	1565	0.000	8760	0.000	
8	0.000	84	0.000	1565	0.000	8760	0.000	
9	0.000	84	0.000	1565	0.000	8760	0.000	
10	0.000	84	0.000	1565	0.000	8760	0.000	
					Total CO Emissions =		1.3	TPY
					Total CO Emissions =		0.30	lb/hr

Estimated Heater VOC Emissions							
Heater Number	Heater Rating	Emissions Factor	Emissions Factor	Fuel Heat Value	Corrected Emissions Factor	Annual Operating	Estimated Emissions
(1)	(MMBtu/hr)	(lb/MMCF)	(lb/hr)	(Btu/scf)	(lb/hr)	(hrs)	(TPY)
1	0.600	5.5	0.003	1565	0.005	8760	0.022
2	0.500	5.5	0.003	1565	0.004	8760	0.018
3	0.500	5.5	0.003	1565	0.004	8760	0.018
4	0.500	5.5	0.003	1565	0.004	8760	0.018
5	0.250	5.5	0.001	1565	0.002	8760	0.009
6	0.000	5.5	0.000	1565	0.000	8760	0.000
7	0.000	5.5	0.000	1565	0.000	8760	0.000
8	0.000	5.5	0.000	1565	0.000	8760	0.000
9	0.000	5.5	0.000	1565	0.000	8760	0.000
10	0.000	5.5	0.000	1565	0.000	8760	0.000
Total VOC Emissions =						0.1	TPY
Total VOC Emissions =						0.02	lb/hr

Maintenance Flaring

Sample Identification: EOG Resources

DATE: 17-Jul-15

Facility: Fairway Compressor Station

COMPONENT	mol %	M.W.	(mol % X MW)/100	WT% of i	
H2S	0	34.08	0	0	x
O2	0	32.00	0	0.0000	x
CO2	2.6062	44.01	1.1470	0.0414	x
N2	0.9044	28.02	0.2534	0.0091	x
Methane C1	60.5243	16.04	9.7081	0.3502	x
Ethane C2	12.5469	30.07	3.7729	0.1361	x
Propane C3	12.656	44.09	5.5800	0.2013	x
i-Butane i-C4	1.3642	58.12	0.7929	0.0286	x
n-Butane n-C4	4.9501	58.12	2.8770	0.1038	x
i-Pentane iC5	1.0322	72.15	0.7447	0.0269	x
n-Pentane nC5	1.2482	72.15	0.9006	0.0325	x
Cyclopentane	0.0942	70.1	0.0660	0.0024	x
n-Hexane n-C6	0.4213	86.17	0.3630	0.0131	x
Cyclohexane	0.2358	84.16	0.1984	0.0072	x
other Hexanes	0.4817	85.00	0.4094	0.0148	x
Heptanes	0.6081	100.20	0.6093	0.0220	x
Methylcyclohexane	0.109	98.18	0.1070	0.0039	x
2,2,4 Trimethylpentane	0.0002	114.22	0.0002	0.0000	x
Benzene	0.1382	78.11	0.1079	0.0039	x
Toluene	0.0386	92.14	0.0356	0.0013	x
Ethylbenzene	0.002	106.17	0.0021	0.0001	x
Xylenes	0.0045	106.17	0.0048	0.0002	x
C8+ Heavies	0.0258	120.00	0.0310	0.0011	x
nonanes	0.0061	128.26	0.0078	0.0003	x
C ₁₀ +	0.0021	142.29	0.0030	0.0001	x
	100.0001			1.0000	

MOLECULAR WEIGHT (lb/lb-mol)= 27.7223

TOTAL VOCs WEIGHT PERCENT = 0.4632

TOTAL HAPs WEIGHT PERCENT = 0.0185

WEIGHT PERCENT H2S = 0.0000

Flow rate 10000000 scf/day

Downtime 500 hours VOC TPY 3529.3

controlled 70.6

HAP TPY 141.2

Btu/scf 1565.09 controlled 2.8

NOx 22.8

CO 5.7

EOG will limit flaring gas during maintenance events to 10.0 MMCFD for up to 500 hours per year.

Pigging/Compressor Blowdowns

Sample Identification: EOG Resources

DATE: 17-Jul-15

Facility: Fairway Compressor Station

COMPONENT	mol %	M.W.	(mol % X MW)/100	WT% of i	
H2S	0	34.08	0	0	x
O2	0	32.00	0	0.0000	x
CO2	2.6062	44.01	1.1470	0.0414	x
N2	0.9044	28.02	0.2534	0.0091	x
Methane C1	60.5243	16.04	9.7081	0.3502	x
Ethane C2	12.5469	30.07	3.7729	0.1361	x
Propane C3	12.656	44.09	5.5800	0.2013	x
i-Butane i-C4	1.3642	58.12	0.7929	0.0286	x
n-Butane n-C4	4.9501	58.12	2.8770	0.1038	x
i-Pentane iC5	1.0322	72.15	0.7447	0.0269	x
n-Pentane nC5	1.2482	72.15	0.9006	0.0325	x
Cyclopentane	0.0942	70.1	0.0660	0.0024	x
n-Hexane n-C6	0.4213	86.17	0.3630	0.0131	x
Cyclohexane	0.2358	84.16	0.1984	0.0072	x
other Hexanes	0.4817	85.00	0.4094	0.0148	x
Heptanes	0.6081	100.20	0.6093	0.0220	x
Methylcyclohexane	0.109	98.18	0.1070	0.0039	x
2,2,4 Trimethylpentane	0.0002	114.22	0.0002	0.0000	x
Benzene	0.1382	78.11	0.1079	0.0039	x
Toluene	0.0386	92.14	0.0356	0.0013	x
Ethylbenzene	0.002	106.17	0.0021	0.0001	x
Xylenes	0.0045	106.17	0.0048	0.0002	x
C8+ Heavies	0.0258	120.00	0.0310	0.0011	x
nonanes	0.0061	128.26	0.0078	0.0003	x
C ₁₀ +	0.0021	142.29	0.0030	0.0001	x
	100.0001			1.0000	
MOLECULAR WEIGHT (lb/lb-mol)=			27.7223		
TOTAL VOCs WEIGHT PERCENT =			0.4632		
TOTAL HAPs WEIGHT PERCENT =			0.0185		
WEIGHT PERCENT H2S =			0.0000		

Compressor Blowdowns

2600 scf/hr (1 blowdown per compressor per month, 3 compressors)
93600 scf/yr

Pigging Events

50,000 scf/hr (assumed 100 hours per year of pigging)
5000000 scf/yr

Flow rate 5093600 scf/yr

Btu/scf 1565.09

VOC TPY	86.3
controlled	1.7
HAP TPY	3.5
controlled	0.1
NOx	0.6
CO	0.1

Condensate Tank Combustor Emission Calculations

Emission Source:

Tank Vent Gas Flowrate:	4.6 Mcf/day	(from Promax)
Tank Vent Gas Flowrate:	191.6 scf/hr	
Estimated Heating Value:	2308.7 Btu/scf	(Btu content of tank flash from Promax)
Pilot Gas Flowrate:	0.28 scf/min	(one combustor)
Pilot Gas Flowrate:	16.8 scf/hr	
Estimated Heating Value:	1565.1 Btu/scf	
Total Flow to Flare:	5002.3 scf/day	

Pollutant	lb/hr	ton/yr
NO _x	0.07	0.3
CO	0.02	0.1

Emission Factors (From Ch. 6, Sec. 2 Guidance)

NO _x	0.14 lb/MMBtu
CO	0.035 lb/MMBtu

Water Transfer Facility - Blanket Gas Calculation

Sample Identification: EOG Resources

DATE: 17-Jul-15

Facility: Water Transfer Facility

COMPONENT	mol %	M.W.	(mol % X MW)/100	WT% of i	
H2S	0	34.08	0	0	x
O2	0	32.00	0	0.0000	x
CO2	2.6062	44.01	1.1470	0.0414	x
N2	0.9044	28.02	0.2534	0.0091	x
Methane C1	60.5243	16.04	9.7081	0.3502	x
Ethane C2	12.5469	30.07	3.7729	0.1361	x
Propane C3	12.656	44.09	5.5800	0.2013	x
i-Butane i-C4	1.3642	58.12	0.7929	0.0286	x
n-Butane n-C4	4.9501	58.12	2.8770	0.1038	x
i-Pentane iC5	1.0322	72.15	0.7447	0.0269	x
n-Pentane nC5	1.2482	72.15	0.9006	0.0325	x
Cyclopentane	0.0942	70.1	0.0660	0.0024	x
n-Hexane n-C6	0.4213	86.17	0.3630	0.0131	x
Cyclohexane	0.2358	84.16	0.1984	0.0072	x
other Hexanes	0.4817	85.00	0.4094	0.0148	x
Heptanes	0.6081	100.20	0.6093	0.0220	x
Methylcyclohexane	0.109	98.18	0.1070	0.0039	x
2,2,4 Trimethylpentane	0.0002	114.22	0.0002	0.0000	x
Benzene	0.1382	78.11	0.1079	0.0039	x
Toluene	0.0386	92.14	0.0356	0.0013	x
Ethylbenzene	0.002	106.17	0.0021	0.0001	x
Xylenes	0.0045	106.17	0.0048	0.0002	x
C8+ Heavies	0.0258	120.00	0.0310	0.0011	x
nonanes	0.0061	128.26	0.0078	0.0003	x
C ₁₀ +	0.0021	142.29	0.0030	0.0001	x
	100.0001			1.0000	
MOLECULAR WEIGHT (lb/lb-mol)=			27.7223		
TOTAL VOCs WEIGHT PERCENT =			0.4632		
TOTAL HAPs WEIGHT PERCENT =			0.0185		
WEIGHT PERCENT H2S =			0.0000		
Flow rate	504 scf/day				
	21 scf/hr	VOC TPY	3.1		
	8760 hours	controlled	0.1		
		HAP TPY	0.1		
Btu/scf	1565	controlled	0.0		
		NOx	0.02		
		CO	0.01		

Flare Emission Calculations (Dehy control)

Emission Source:

Estimated Heating Value: 1565.1 Btu/scf (assumed same heat content as field gas)
 Flash Tank Gas Flowrate: 99840.0 scf/day
 Flash Tank Gas Flowrate: 4160.0 scf/hr
 Pilot Gas Flowrate: 1.08 scf/min (flare)
 Pilot Gas Flowrate: 64.8 scf/hr
 Estimated Heating Value: 1565.1 Btu/scf
 Total Flow to Flare: 101395.2 scf/day

Pollutant	lb/hr	ton/yr	Emission Factors (From Ch. 6, Sec. 2 Guidance)
NO _x	0.93	4.1	0.14 lb/MMBtu
CO	0.23	1.0	0.035 lb/MMBtu

The emissions associated with the flare include full time control of the dehydration unit flash tank.
 The flash tank will primarily be routed to the compression inlet.

Truck Loading Emission Calculations

VOC Emissions from Truck Loading - AP-42 Chapter 5.2

AP-42 Chapter 5.2, Table 5.2-1		
Tank trucks and rail cars submerged loading of a clean cargo tank		
Submerged loading; dedicated normal service		0.5
Submerged loading; dedicated vapor balance service		
Splash loading of a clean cargo tank		1
Splash loading; dedicated normal service		1.45
Splash loading; dedicated vapor balance service		1.45
Marine vessels, submerged loading; ships		
Submerged loading; barges		0.2
		0.5

Equation 1 for loading losses: $(12.46) * (SPM / T) = L_l$

Where:

L_l = loading losses, lbs/1000 gal of liquid loaded

S = saturation factor

P = true vapor pressure of liquid loaded (psia). Source: 10.41 RVP of condensate (from Precision Analysis) converted to TVP @50°F using Figure 7.1-13a of AP-42 Chapter 7 (11/06).

M = Molecular wt of vapors, lb/lb-mol (from Promax)

T = temperature of bulk liquids loaded °R (°F = 460)

60.0 barrels/day	(production rates)
21900 bbls/yr	
919800 gallons/yr	

$S = 0.6$
 $P = 6.0 \text{ psia}$
 $M = 44.10 \text{ lb/lb-mol}$ (taken from Promax)
 $T = 510 \text{ °R}$
 $L_l = 3.88 \text{ lb/1000 gallons}$

Total Loss= 1.8 TPY TOC

Uncontrolled VOC Emissions:	1.3 TPY
Uncontrolled HAP Emissions:	0.1 TPY

COMPONENT	(Taken from Promax)			(mol % X MW)/100	WT% of i
	mol %	M.W.			
H2S	0	34.08	0	0	0
O2	0.0000	32.00	0	0.0000	0.0000
CO2	7.5335	44.01	3.3155	0.0752	0.0752
N2	0.7949	28.02	0.2227	0.0051	0.0051
Methane C1	14.6410	16.04	2.3484	0.0533	0.0533
Ethane C2	19.6488	30.07	5.9084	0.1340	0.1340
Propane C3	26.5646	44.09	11.7123	0.2657	0.2657
i-Butane i-C4	3.4835	58.12	2.0246	0.0459	0.0459
n-Butane n-C4	14.2224	58.12	8.2661	0.1875	0.1875
i-Pentane iC5	3.8397	72.15	2.7704	0.0628	0.0628
n-Pentane nC5	4.7506	72.15	3.4276	0.0777	0.0777
n-Hexane n-C6	1.1891	86.17	1.0247	0.0232	0.0232
Cyclohexane	0.0000	84.16	0.0000	0.0000	0.0000
other Hexanes	1.6880	85.00	1.4348	0.0325	0.0325
Heptanes	1.0090	100.20	1.0111	0.0229	0.0229
Methylcyclohexane	0.0000	98.18	0.0000	0.0000	0.0000
2,2,4 Trimethylpentane	0.0644	114.22	0.0736	0.0017	0.0017
Benzene	0.1867	78.11	0.1458	0.0033	0.0033
Toluene	0.2024	92.14	0.1865	0.0042	0.0042
Ethylbenzene	0.0044	106.17	0.0047	0.0001	0.0001
Xylenes	0.0196	106.17	0.0208	0.0005	0.0005
C8+ Heavies	0.1480	120.00	0.1777	0.0040	0.0040
nonanes	0.0092	128.26	0.0118	0.0003	0.0003
C10+	0.0000	142.29	0.0000	0.0000	0.0000
Water	0.0000				
	100.000				1.0000
MOLECULAR WEIGHT (lb/lb-mol)=			44.0873		
TOTAL VOCs WEIGHT PERCENT =			0.7325		
TOTAL HAPs WEIGHT PERCENT =			0.0330		

Fugitive Emissions Calculations

EPA Average Emission Factors for Total Hydrocarbon (THC) Emissions from O&G Production Operations
(lb/component-day)

Equipment Service Category

Equipment Type	Gas	Heavy Oil (<20° API)	Light Oil (>20° API)	Water/Light Oil
connector	0.011	0.0004	0.011	0.0058
flange	0.021	0.00021	0.0058	0.00015
open ended line	0.11	0.0074	0.074	0.013
other	0.47	0.0017	0.4	0.74
pump	0.13	0	0.69	0.0013
valve	0.24	0.00044	0.13	0.0052

Speciated Fugitive Emission Factors

(Estimated weight fractions of THC emissions in each category)

	Methane	NMHC	VOC	C6+	Benzene	Toluene	Ethyl- Benzene	Xylenes
Light Crude	0.613	0.387	0.292	0.0243	0.00037	0.00075	0.00017	0.00036
Heavy Crude	0.942	0.058	0.030	0.0752	0.00935	0.00344	0.00051	0.00372
Gas Production	0.92	0.080	0.035	0.00338	0.00023	0.00039	0.00002	0.0001

Service

Type	Gas	Heavy Oil	Light Oil	Water/Light Oil
connector	50	0	50	0
flange	250	0	250	250
open ended line	5	0	5	0
other	10	0	10	10
pump	0	0	0	0
valve	20	0	10	10
Emissions (lb/day)	15.85	0	7.67	7.4895

365 days
2000 lbs

0.732 VOC concentration - light crude from Promax
0.463 VOC concentration - gas sample

Using Site Specific Data

	TOC	VOC	C6+	Benzene	Toluene	Ethyl- Benzene	Xylene	Total HAP
lb/day	31.0	16.429	0.265	0.008	0.015	0.002	0.005	0.295
ton/yr	5.7	3.0	0.048	0.0015	0.003	0.000	0.001	0.1



STATE OF WYOMING

Department of Environmental Quality - Air Quality Division
Oil and Gas Production Facilities C6 S2 Permit Application

EMISSION SUMMARY



Company Name EOG Resources, Inc.
Facility Name Fairway Compressor Station and Water Transfer Facility

This form must be completed for each emission source at the facility. A list of the emission sources which must be considered is found in Appendix B of the C6 S2 O&G Production Facilities Permitting Guidance.

UNCONTROLLED EMISSIONS (Tons Per Year)

These are the total uncontrolled, potential emissions from each source.

EMISSION SOURCE (i.e., tank, natural gas-fired heater, reboiler still vent, glycol flash separator, pneumatic pump, separator gas vent, water knockout vent, etc.)	VOCs	total HAPs	NO _x	CO	SO ₂	H ₂ S
two (2) 400-bbl condensate tanks	73.6	3.3				
Maintenance Flaring (uncontrolled)	3529.3	141.2				
truck loading (updated)	1.3	0.1				
fugitives (updated)	3.0	0.1				
20.0 MMCFD TEG Dehydration Unit (updated)	900.8	170.6				
three (3) 0.5 MMBtu/hr tank heaters	0.1	insig	1.0	0.8		
one (1) 0.25 MMBtu/hr line heater	0.0	insig	0.2	0.1		
five (5) 500-bbl produced water tanks (blanket gas routed to combustor)	3.1	0.1				
blowdown/pigging	86.3	3.5				
0.6 MMBtu/hr reboiler heater	0.0	insig	0.4	0.3		
two (2) 6,000 gallon methanol tanks	0.1	insig				
three (3) 6,000 gallon chemical tanks	insig	insig				
Total	4597.6	318.8	1.5	1.3		

CONTROLLED EMISSIONS (Tons Per Year)

These are the total emissions from each source. Include controlled emissions from each controlled source and uncontrolled emissions from each source which does not require control, such as process equipment burners.

EMISSION SOURCE	VOCs	total HAPs	NO _x	CO	SO ₂	H ₂ S
two (2) 400-bbl condensate tanks	See Cimarron Combustor					
Cimarron Combustor (Condensate Tanks)	1.5	0.1	0.3	0.1		
Maintenance Flaring (500 hours)	70.6	2.8	22.8	5.7		
truck loading (updated)	1.3	0.1				
20.0 MMCFD TEG Dehydration Unit	See Facility Flare					
Facility Flare	14.1	1.0	4.1	1.0		
three (3) 0.5 MMBtu/hr tank heaters	0.1	insig	1.0	0.8		
one (1) 0.25 MMBtu/hr line heater	0.0	insig	0.2	0.1		
five (5) 500-bbl produced water tanks (blanket gas routed to combustor)	See Cimarron Combustor					
Cimarron Combustor (Water Transfer)	0.1	0.0	0.0	0.0		
blowdown/pigging (routed to facility flare)	1.7	0.1	0.6	0.1		
0.6 MMBtu/hr reboiler heater	0.0	insig	0.4	0.3		
two (2) 6,000 gallon methanol tanks	0.1	insig				
three (3) 6,000 gallon chemical tanks	insig	insig				
Total	88.0	4.0	29.0	8.2		

HAZARDOUS AIR POLLUTANT SUMMARY (Tons Per Year)

Complete this section for each emissions source if TOTAL HAPs from that source are 9 TPY or greater.

SOURCE	Benzene	Toluene	Ethyl-Benzene	Xylenes	Other

Form AQD-OG6

Emission Summary September 2013



STATE OF WYOMING
Department of Environmental Quality - Air Quality Division
Oil and Gas Production Facilities C6 S2 Permit Application



Equipment List

Company Name EOG Resources, Inc.

Facility Name Fairway Compressor Station

List all production equipment at the site including all pressurized vessels with the potential for flash emissions, all hydrocarbon liquids and produced water storage tanks, all dehydration units, all pneumatic pumps, all natural gas-fired burners and heaters and all emission control equipment and devices. Pressurized vessels with the potential for flash emissions are all vessels that vent vapors to the atmosphere during times other than upset or emergency conditions (water knockouts, 2-phase and 3-phase separators, heater treaters, gun barrels, scrubber pots, etc). Provide design ratings for dehyds (MMCFD), process heaters, burners and pilots (MMBtu/hr, SCFH). Provide size of production & water storage tanks (BPD). For dehydration units indicate if the unit includes a glycol flash separator and/or reboiler still vent condenser. For emission control combustors/flare indicate design rating (MMBtu/hr, SCFD) and combustor/flare height (ft). Provide pneumatic pump motive gas usage (SCFH).

If more space is required, continue on page 2 of this sheet.

PROVIDE INSTALLATION DATES OF ALL EMISSION CONTROL EQUIPMENT & MONITORING DEVICES/SYSTEMS !!!

one (1) 400-barrel (bbl) condensate storage tank w/0.50 MMBtu/hr tank heater (routed to Cimmaron ECD) (existing)

one (1) 400-bbl produced water storage tank w/0.50 MMBtu/hr tank heater (routed to Cimmaron ECD) (existing)

one (1) 48"x12' Cimmaron LV enclosed combustion device (ECD) with continuous pilot and thermocouple monitored through Cygnet (controls produced water and condensate storage tank emissions)

one (1) 60' Flare Industries flare with continuous pilot and thermocouple monitored through Cygnet (controls TEG dehydration unit flash tank emissions, and all gas during maintenance events, i.e. pigging, compressor blowdown)

one (1) 20.0 million cubic foot per day (MMCFD) tri-ethylene glycol (TEG) dehydration unit with 0.6 MMBtu/hr reboiler heater, reboiler overheads condenser, glycol flash tank, and three (3) Kimray model 21015PV glycol circulation pumps (one backup)

three (3) electric motor driven compressors

one (1) unheated 9'x30' horizontal inlet separator (slug catcher)

one (1) unheated 60"x20' horizontal separator (flare knockout)

truck loadout

one (1) 400-barrel (bbl) condensate storage tank w/0.50 MMBtu/hr tank heater (routed to Cimmaron ECD) (proposed)

five (5) 6,000 gallon chemical storage tanks (methanol, emulsion breaker, paraffin inhibitor, corrosion inhibitor) (proposed)

fugitives

compressor blowdowns/pigging (routed to facility flare)

Example:

1 2-phase high pressure separator (unheated)

1 3-phase low pressure separator w/ 0.5 MMBtu/hr heater

2 0.5 MMBtu/hr line heaters

1 5 MMCFD TEG dehydration unit w/ 0.5 MMBtu/hr reboiler heater, glycol flash separator(0.5 MMBtu/hr heater) and overheads condenser

2 400-bbl condensate tanks

1 400-bbl produced water tank

1 30-ft enclosed combustor (3.0 MMBtu/hr, 5 MCFD) for flashing & reboiler vent/glycol flash separator emissions control installed 1/1/2007

Form AQD-OG2

Equipment List September 2013



STATE OF WYOMING
Department of Environmental Quality - Air Quality Division
Oil and Gas Production Facilities C6 S2 Permit Application



Equipment List - continued

Company Name EOG Resources, Inc.
Facility Name Water Transfer Facility

five (5) 500-bbl produced water storage tanks

one (1) 0.25 MMBtu/hr line heater

various electric driven pumps

one (1) 48"x12" Cimmaron LV enclosed combustion device (ECD) with continuous pilot and thermocouple monitored through Cygnet (controls water storage tank emissions)



Bryan Research & Engineering, Inc.

ProMax[®] 3.2

with
TSWEET[®] & PROSIM[®]

Copyright © BRE Group, Ltd. 2002-2012. All Rights Reserved.

Simulation Report

Project: Fairway CS update - outlet sample.pmx

Licensed to EOG Resources, Inc. and Affiliates

Client Name: EOG

Location: Fairway Compressor Station

Job:

ProMax Filename: M:\ProMax\Fairway CS update - outlet sample.pmx

ProMax Version: 3.2.12198.0

Simulation Initiated: 6/17/2015 8:08:25 AM

Bryan Research & Engineering, Inc.

Chemical Engineering Consultants

P.O. Box 4747 Bryan, Texas 77805

Office: (979) 776-5220

FAX: (979) 776-4818

<mailto:sales@bre.com>

<http://www.bre.com/>

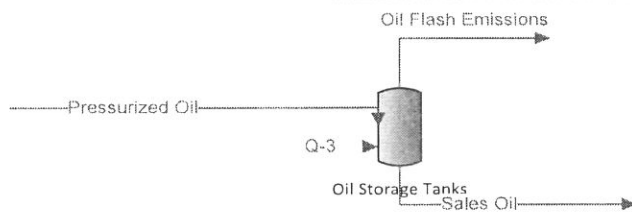
Report Navigator can be activated via the ProMax Navigator Toolbar.

An asterisk (*), throughout the report, denotes a user specified value.

A question mark (?) after a value, throughout the report, denotes an extrapolated or approximate value.

Stream Oil Flash Emissions C3+ Mass Flow =71.45 ton/yr

PStream "Oil Flash Emissions" Select Sum = 3.221 ton/yr



Names	Units	Sales Oil
Std Liquid Volumetric Flow	bb/d	60

Process Streams		Oil Flash Emissions	
Composition		Status:	Solved
Phase: Total		From Block:	Oil Storage Tanks
		To Block:	--
Mass Flow		lb/h	
Hydrogen Sulfide		0	
Oxygen		0	
Carbon Dioxide		1.67422	
Nitrogen		0.112444	
Methane		1.18607	
Ethane		2.98348	
Propane		5.91517	
Isobutane		1.02241	
n-Butane		4.17429	
Isopentane		1.39894	
n-Pentane		1.73079	
2-Methylpentane		0.541793	
3-Methylpentane		0.192759	
Heptane		0.510595	
Octane		0.0853962	
Nonane		0.00594870	
Benzene		0.0736326	
Toluene		0.0941579	
Ethylbenzene		0.00237448	
m-Xylene		0.00118628	
p-Xylene		0.00774979	
o-Xylene		0.00157527	
n-Hexane		0.517453	
2,2,4-Trimethylpentane		0.0371702	
Water		0	
C10+		3.84442E-06	
Mole Fraction		%	
Hydrogen Sulfide		0	
Oxygen		0	
Carbon Dioxide		7.53355	
Nitrogen		0.794886	
Methane		14.6410	
Ethane		19.6488	
Propane		26.5646	
Isobutane		3.48350	
n-Butane		14.2224	
Isopentane		3.83975	
n-Pentane		4.75060	
2-Methylpentane		1.24504	
3-Methylpentane		0.442960	
Heptane		1.00904	
Octane		0.148046	
Nonane		0.00918502	
Benzene		0.186675	
Toluene		0.202371	
Ethylbenzene		0.00442915	
m-Xylene		0.00221277	
p-Xylene		0.0144558	
o-Xylene		0.00293836	
n-Hexane		1.18910	
2,2,4-Trimethylpentane		0.0044395	
Water		0	
C10+		3.43307E-06	
Mass Fraction		%	
Hydrogen Sulfide		0	
Oxygen		0	
Carbon Dioxide		7.51799	
Nitrogen		0.504924	
Methane		5.32594	
Ethane		13.3971	
Propane		26.5616	
Isobutane		4.59106	
n-Butane		18.7444	
Isopentane		6.28184	
n-Pentane		7.77200	
2-Methylpentane		2.43288	
3-Methylpentane		0.865572	
Heptane		2.29265	
Octane		0.383465	
Nonane		0.0267122	
Benzene		0.330642	
Toluene		0.422809	
Ethylbenzene		0.0106625	
m-Xylene		0.00532689	
p-Xylene		0.0347999	
o-Xylene		0.00707363	
n-Hexane		2.32359	
2,2,4-Trimethylpentane		0.166910	
Water		0	
C10+		1.72631E-05	

SWB HAP TPY
(assume 3.3% HAP
based on oil flash
output stream HAP
concentration)

SWB VOC TPY from
Tanks 4.0
2.2

Oil Flash VOC TPY
71.5

Oil Flash HAP TPY
3.2

Total VOC TPY	Total HAP TPY
73.6	3.3

Process Streams		Oil Flash Emissions
Properties		Status: Solved
Phase: Total	From Block: Oil Storage Tanks	To Block: --
Property	Units	
Temperature	°F	60*
Pressure	psia	14.6959*
Mole Fraction Vapor	%	100
Mole Fraction Light Liquid	%	0
Mole Fraction Heavy Liquid	%	0
Molecular Weight	lb/lbmol	44.1006
Mass Density	lb/ft³	0.118142
Molar Flow	lbmol/h	0.504972
Mass Flow	lb/h	22.2696
Vapor Volumetric Flow	ft³/h	188.499
Liquid Volumetric Flow	gpm	23.5012
Std Vapor Volumetric Flow	MMSCFD	0.00459910
Std Liquid Volumetric Flow	sgpm	0.0862504
Compressibility		0.983666
Specific Gravity		1.52267
API Gravity		
Enthalpy	Btu/h	-27816.5
Mass Enthalpy	Btu/lb	-1249.08
Mass Cp	Btu/(lb*°F)	0.385757
Ideal Gas CpCv Ratio		1.13332
Dynamic Viscosity	cP	0.00856232
Kinematic Viscosity	cSt	4.52447
Thermal Conductivity	Btu/(h*ft²*F)	0.0104586
Surface Tension	lb/ft	
Net Ideal Gas Heating Value	Btu/ft³	2124.59
Net Liquid Heating Value	Btu/lb	18138.8
Gross Ideal Gas Heating Value	Btu/ft³	2308.74
Gross Liquid Heating Value	Btu/lb	19723.5

Process Streams		Oil Flash Emissions
Composition		Status: Solved
Phase: Vapor	From Block: Oil Storage Tanks	To Block: --
Mass Flow	lb/h	
Hydrogen Sulfide	0	
Oxygen	0	
Carbon Dioxide	1.67422	
Nitrogen	0.112444	
Methane	1.18607	
Ethane	2.98348	
Propane	5.91517	
Isobutane	1.02241	
n-Butane	4.17429	
Isopentane	1.39894	
n-Pentane	1.73079	
2-Methylpentane	0.541793	
3-Methylpentane	0.192759	
Heptane	0.510565	
Octane	0.0853962	
Nonane	0.00594870	
Benzene	0.0736326	
Toluene	0.0941579	
Ethylbenzene	0.00237448	
m-Xylene	0.00118628	
p-Xylene	0.00774979	
o-Xylene	0.00157527	
n-Hexane	0.517453	
2,2,4-Trimethylpentane	0.0371702	
Water	0	
C10+	3.84442E-06	
Mole Fraction	%	
Hydrogen Sulfide	0	
Oxygen	0	
Carbon Dioxide	7.53355	
Nitrogen	0.794886	
Methane	14.6410	
Ethane	19.6488	
Propane	26.5646	
Isobutane	3.48350	
n-Butane	14.2224	
Isopentane	3.83975	
n-Pentane	4.75060	
2-Methylpentane	1.24504	
3-Methylpentane	0.442960	
Heptane	1.00904	
Octane	0.148048	
Nonane	0.00918502	
Benzene	0.186675	
Toluene	0.202371	
Ethylbenzene	0.00442915	
m-Xylene	0.00221277	
p-Xylene	0.0144558	
o-Xylene	0.00293836	
n-Hexane	1.18910	
2,2,4-Trimethylpentane	0.0644395	
Water	0	
C10+	3.43307E-06	

Mass Fraction	%
Hydrogen Sulfide	0
Oxygen	0
Carbon Dioxide	7.51799
Nitrogen	0.504924
Methane	5.32594
Ethane	13.3971
Propane	26.5616
Isobutane	4.59106
n-Butane	18.7444
Isopentane	6.28184
n-Pentane	7.77200
2-Methylpentane	2.43288
3-Methylpentane	0.865572
Heptane	2.29265
Octane	0.383465
Nonane	0.0267122
Benzene	0.330642
Toluene	0.422809
Ethylbenzene	0.0106625
m-Xylene	0.00532689
p-Xylene	0.0347999
o-Xylene	0.00707363
n-Hexane	2.32359
2,2,4-Trimethylpentane	0.166910
Water	0
C10+	1.72631E-05

Process Streams		Oil Flash Emissions	
Properties		Status:	Solved
Phase: Vapor		From Block:	Oil Storage Tanks
		To Block:	--
Property	Units		
Temperature	°F		60
Pressure	psia		14.6959
Mole Fraction Vapor	%		100
Mole Fraction Light Liquid	%		0
Mole Fraction Heavy Liquid	%		0
Molecular Weight	lb/lbmol		44.1006
Mass Density	lb/ft³		0.118142
Molar Flow	lbmol/h		0.504972
Mass Flow	lb/h		22.2696
Vapor Volumetric Flow	ft³/h		188.499
Liquid Volumetric Flow	gpm		23.5012
Std Vapor Volumetric Flow	MMSCFD		0.00459910
Std Liquid Volumetric Flow	sgpm		0.0862504
Compressibility			0.983666
Specific Gravity			1.52267
API Gravity			
Enthalpy	Btu/h		-27816.5
Mass Enthalpy	Btu/lb		-1249.08
Mass Cp	Btu/(lb*°F)		0.385757
Ideal Gas CpCv Ratio			1.13332
Dynamic Viscosity	cP		0.00856232
Kinematic Viscosity	cSt		4.52447
Thermal Conductivity	Btu/(h*ft²*F)		0.0104586
Surface Tension	lb/ft		
Net Ideal Gas Heating Value	Btu/ft³		2124.59
Net Liquid Heating Value	Btu/lb		18138.8
Gross Ideal Gas Heating Value	Btu/ft³		2308.74
Gross Liquid Heating Value	Btu/lb		19723.5

TANKS 4.0.9d
Emissions Report - Summary Format
Tank Identification and Physical Characteristics

Identification

User Identification: Fairway CS Condensate Tank
City:
State:
Company:
Type of Tank: Vertical Fixed Roof Tank
Description:

Tank Dimensions

Shell Height (ft): 20.00
Diameter (ft): 12.00
Liquid Height (ft) : 15.00
Avg. Liquid Height (ft): 14.00
Volume (gallons): 12,690.44
Turnovers: 72.48
Net Throughput(gal/yr): 919,800.00
Is Tank Heated (y/n): N

Paint Characteristics

Shell Color/Shade: White/White
Shell Condition: Good
Roof Color/Shade: White/White
Roof Condition: Good

Roof Characteristics

Type: Cone
Height (ft) 0.50
Slope (ft/ft) (Cone Roof) 0.08

Breather Vent Settings

Vacuum Settings (psig): -0.03
Pressure Settings (psig) 0.03

Meteorological Data used in Emissions Calculations: Cheyenne, Wyoming (Avg Atmospheric Pressure = 11.76 psia)

TANKS 4.0.9d
Emissions Report - Summary Format
Liquid Contents of Storage Tank

Fairway CS Condensate Tank - Vertical Fixed Roof Tank

Mixture/Component	Daily Liquid Surf. Temperature (deg F)				Liquid Bulk Temp (deg F)		Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
	Month	Avg.	Min.	Max.	Avg.	Min.	Max.	Avg.	Min.	Max.				
Gasoline (RVP 10)	All	47.49	41.37	53.62	45.62	4.0445	3.5647	4.5750	66.0000				92.00	Option 4: RVP=10, ASTM Slope=3

TANKS 4.0.9d
Emissions Report - Summary Format
Individual Tank Emission Totals

Emissions Report for: Annual

Fairway CS Condensate Tank - Vertical Fixed Roof Tank

Components	Losses(lbs)		Total Emissions
	Working Loss	Breathing Loss	
Gasoline (RVP 10)	3,393.96	922.17	4,316.13

TANKS 4.0.9d
Emissions Report - Summary Format
Tank Identification and Physical Characteristics

Identification

User Identification: Fairway CS - Methanol Tank
City:
State:
Company:
Type of Tank: Vertical Fixed Roof Tank
Description:

Tank Dimensions

Shell Height (ft): 15.00
Diameter (ft): 9.00
Liquid Height (ft) : 12.00
Avg. Liquid Height (ft): 10.00
Volume (gallons): 5,710.70
Turnovers: 18.38
Net Throughput(gal/yr): 108,000.00
Is Tank Heated (y/n): N

Paint Characteristics

Shell Color/Shade: White/White
Shell Condition: Good
Roof Color/Shade: White/White
Roof Condition: Good

Roof Characteristics

Type: Cone
Height (ft) 0.50
Slope (ft/ft) (Cone Roof) 0.11

Breather Vent Settings

Vacuum Settings (psig): -0.03
Pressure Settings (psig) 0.03

Meteorological Data used in Emissions Calculations: Cheyenne, Wyoming (Avg Atmospheric Pressure = 11.76 psia)

TANKS 4.0.9d
Emissions Report - Summary Format
Liquid Contents of Storage Tank

Fairway CS - Methanol Tank - Vertical Fixed Roof Tank

Mixture/Component	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
	Avg.	Min.	Max.		Avg.	Min.	Max.					
Month	47.49	41.37	53.62									
All				45.62	0.9614	0.7814	1.1760	32.0400			32.04	Option 2: A=7.897, B=1474.08, C=229.13
Methyl alcohol												

TANKS 4.0.9d
Emissions Report - Summary Format
Individual Tank Emission Totals

Emissions Report for: Annual

Fairway CS - Methanol Tank - Vertical Fixed Roof Tank

Components	Losses(lbs)		Total Emissions
	Working Loss	Breathing Loss	
Methyl alcohol	79.21	42.63	121.84

GRI-GLYCalc VERSION 4.0 - SUMMARY OF INPUT VALUES

Case Name: Fairway CS

File Name: C:\Users\msmith6\Documents\my gly calc stuff\Fairway CS\Fairway CS update.ddf

Date: June 17, 2015

DESCRIPTION:

Description: 20 MMCFD dehy two (2) Kimray 21015PV pumps
(7.0 gpm)

Annual Hours of Operation: 8760.0 hours/yr

WET GAS:

Temperature: 100.00 deg. F
Pressure: 1000.00 psig
Wet Gas Water Content: Saturated

Component	Conc. (vol %)
Carbon Dioxide	2.6062
Nitrogen	0.9044
Methane	60.5243
Ethane	12.5469
Propane	12.6560
Isobutane	1.3642
n-Butane	4.9501
Isopentane	1.0322
n-Pentane	1.2482
Cyclopentane	0.0942
n-Hexane	0.4230
Cyclohexane	0.2358
Other Hexanes	0.4817
Heptanes	0.6081
Methylcyclohexane	0.1090
2,2,4-Trimethylpentane	0.0002
Benzene	0.1382
Toluene	0.0386
Ethylbenzene	0.0020
Xylenes	0.0045
C8+ Heavies	0.0340

DRY GAS:

Flow Rate: 20.0 MMSCF/day
Water Content: 7.0 lbs. H2O/MMSCF

LEAN GLYCOL:

Glycol Type: TEG
Water Content: 1.5 wt% H2O
Flow Rate: 7.0 gpm

PUMP:

Glycol Pump Type: Gas Injection
Gas Injection Pump Volume Ratio: 0.080 acfm gas/gpm glycol

FLASH TANK:

Flash Control: Combustion device
Flash Control Efficiency: 98.00 %
Temperature: 80.0 deg. F
Pressure: 60.0 psig

REGENERATOR OVERHEADS CONTROL DEVICE:

Control Device: Condenser
Temperature: 100.0 deg. F
Pressure: 12.0 psia

Control Device: Combustion Device
Destruction Efficiency: 98.0 %
Excess Oxygen: 0.0 %
Ambient Air Temperature: 50.0 deg. F

GRI-GLYCalc VERSION 4.0 - EMISSIONS SUMMARY

Case Name: Fairway CS

File Name: C:\Users\msmith6\Documents\my gly calc stuff\Fairway CS\Fairway CS update.ddf

Date: June 17, 2015

CONTROLLED REGENERATOR EMISSIONS

Component	lbs/hr	lbs/day	tons/yr
Methane	0.0138	0.332	0.0605
Ethane	0.0250	0.601	0.1097
Propane	0.0820	1.968	0.3591
Isobutane	0.0181	0.435	0.0794
n-Butane	0.0864	2.073	0.3784
Isopentane	0.0202	0.485	0.0885
n-Pentane	0.0275	0.661	0.1206
Cyclopentane	0.0089	0.214	0.0391
n-Hexane	0.0121	0.291	0.0532
Cyclohexane	0.0218	0.523	0.0954
Other Hexanes	0.0135	0.324	0.0592
Heptanes	0.0142	0.342	0.0624
Methylcyclohexane	0.0064	0.154	0.0280
2,2,4-Trimethylpentane	<0.0001	<0.001	<0.0001
Benzene	0.1000	2.399	0.4378
Toluene	0.0133	0.318	0.0581
Ethylbenzene	0.0003	0.007	0.0013
Xylenes	0.0006	0.014	0.0026
C8+ Heavies	<0.0001	<0.001	<0.0001
Total Emissions	0.4642	11.141	2.0331
Total Hydrocarbon Emissions	0.4642	11.141	2.0331
Total VOC Emissions	0.4253	10.208	1.8630
Total HAP Emissions	0.1263	3.030	0.5530
Total BTEX Emissions	0.1141	2.739	0.4998

UNCONTROLLED REGENERATOR EMISSIONS

Component	lbs/hr	lbs/day	tons/yr
Methane	0.6930	16.631	3.0352
Ethane	1.2713	30.511	5.5682
Propane	4.4065	105.755	19.3003
Isobutane	1.0537	25.289	4.6152
n-Butane	5.4716	131.319	23.9658
Isopentane	1.6358	39.258	7.1646
n-Pentane	2.6057	62.536	11.4128
Cyclopentane	0.9526	22.862	4.1724
n-Hexane	1.8897	45.352	8.2768
Cyclohexane	4.5525	109.261	19.9401
Other Hexanes	1.6227	38.945	7.1074
Heptanes	5.7496	137.991	25.1834
Methylcyclohexane	2.4588	59.012	10.7697
2,2,4-Trimethylpentane	0.0011	0.026	0.0048
Benzene	22.2445	533.869	97.4311
Toluene	8.1474	195.538	35.6857
Ethylbenzene	0.5049	12.118	2.2115
Xylenes	1.5122	36.292	6.6233
C8+ Heavies	0.8767	21.041	3.8399

Total Emissions	67.6502	1623.606	296.3080
Total Hydrocarbon Emissions	67.6502	1623.606	296.3080
Total VOC Emissions	65.6860	1576.464	287.7046
Total HAP Emissions	34.2998	823.195	150.2331
Total BTEX Emissions	32.4090	777.816	141.9515

FLASH GAS EMISSIONS

Component	lbs/hr	lbs/day	tons/yr
Methane	2.0310	48.745	8.8960
Ethane	0.8701	20.882	3.8110
Propane	1.2840	30.816	5.6238
Isobutane	0.1787	4.290	0.7829
n-Butane	0.6618	15.883	2.8987
Isopentane	0.1566	3.758	0.6859
n-Pentane	0.1904	4.569	0.8338
Cyclopentane	0.0170	0.407	0.0743
n-Hexane	0.0665	1.597	0.2914
Cyclohexane	0.0385	0.923	0.1685
Other Hexanes	0.0789	1.893	0.3455
Heptanes	0.0848	2.035	0.3714
Methylcyclohexane	0.0146	0.351	0.0641
2,2,4-Trimethylpentane	<0.0001	0.001	0.0002
Benzene	0.0216	0.519	0.0947
Toluene	0.0044	0.106	0.0193
Ethylbenzene	0.0001	0.003	0.0006
Xylenes	0.0003	0.007	0.0012
C8+ Heavies	0.0015	0.036	0.0066
Total Emissions	5.7009	136.821	24.9698
Total Hydrocarbon Emissions	5.7009	136.821	24.9698
Total VOC Emissions	2.7997	67.193	12.2628
Total HAP Emissions	0.0930	2.232	0.4073
Total BTEX Emissions	0.0264	0.634	0.1158

FLASH TANK OFF GAS

Component	lbs/hr	lbs/day	tons/yr
Methane	101.5525	2437.259	444.7997
Ethane	43.5042	1044.101	190.5483
Propane	64.1990	1540.776	281.1917
Isobutane	8.9369	214.486	39.1436
n-Butane	33.0901	794.163	144.9348
Isopentane	7.8298	187.914	34.2944
n-Pentane	9.5188	228.450	41.6921
Cyclopentane	0.8481	20.354	3.7147
n-Hexane	3.3265	79.837	14.5702
Cyclohexane	1.9230	46.152	8.4228
Other Hexanes	3.9438	94.652	17.2740
Heptanes	4.2398	101.756	18.5705
Methylcyclohexane	0.7319	17.566	3.2058
2,2,4-Trimethylpentane	0.0017	0.041	0.0075
Benzene	1.0808	25.939	4.7338
Toluene	0.2205	5.291	0.9657
Ethylbenzene	0.0069	0.165	0.0300

Xylenes	0.0137	0.328	0.0599
C8+ Heavies	0.0750	1.800	0.3285

-----	-----	-----	-----
Total Emissions	285.0429	6841.030	1248.4880
Total Hydrocarbon Emissions	285.0429	6841.030	1248.4880
Total VOC Emissions	139.9863	3359.671	613.1399
Total HAP Emissions	4.6500	111.600	20.3671
Total BTEX Emissions	1.3218	31.723	5.7894

GRI-GLYCalc VERSION 4.0 - STREAM REPORT

Case Name: Fairway CS

File Name: C:\Users\msmith6\Documents\my gly calc stuff\Fairway CS\Fairway CS update.ddf

Date: June 17, 2015

FLASH TANK OFF GAS STREAM

Temperature: 80.00 deg. F

Pressure: 74.70 psia

Flow Rate: 4.16e+003 scfh

Component	Conc. (vol%)	Loading (lb/hr)
Water	3.95e-002	7.81e-002
Carbon Dioxide	4.46e+000	2.15e+001
Nitrogen	8.90e-001	2.74e+000
Methane	5.77e+001	1.02e+002
Ethane	1.32e+001	4.35e+001
Propane	1.33e+001	6.42e+001
Isobutane	1.40e+000	8.94e+000
n-Butane	5.19e+000	3.31e+001
Isopentane	9.89e-001	7.83e+000
n-Pentane	1.20e+000	9.52e+000
Cyclopentane	1.10e-001	8.48e-001
n-Hexane	3.52e-001	3.33e+000
Cyclohexane	2.08e-001	1.92e+000
Other Hexanes	4.17e-001	3.94e+000
Heptanes	3.86e-001	4.24e+000
Methylcyclohexane	6.79e-002	7.32e-001
2,2,4-Trimethylpentane	1.37e-004	1.71e-003
Benzene	1.26e-001	1.08e+000
Toluene	2.18e-002	2.20e-001
Ethylbenzene	5.89e-004	6.86e-003
Xylenes	1.17e-003	1.37e-002
C8+ Heavies	4.01e-003	7.50e-002
Total Components	100.00	3.09e+002



INSTALLATION, OPERATION AND MAINTENANCE MANUAL

FOR
EOG RESOURCES
C/O KAHUNA VENTURES
West Minster, Colorado USA

SFVP-1042 Flare Tip & Model 850 Pilots, -B System FL-411

Document No 140663-M02-0001, Rev 0



Flare Industries

CERTIFIED FINAL

QA: 

ENG: 

PM: 



TABLE OF CONTENTS

1.0 PROJECT DESCRIPTION	4
1.1 Project Summary	4
1.2 Scope of Supply	5
1.3 Process Conditions	5
1.4 Site Conditions	6
1.5 Utility Requirements	6
2.0 ASSEMBLY, INSTALLATION, AND COMMISSIONING PROCEDURES	7
2.1 Flare Stack Assembly and Preparation	7
2.2 Flare Stack Erection Procedure	8
2.3 System Controls Installation Procedure	9
3.0 SAFETY CONSIDERATIONS	11
3.1 Pre-Start-Up Checklist	11
3.2 System Purge	11
4.0 OPERATING SUMMARY	13
4.1 Controls Summary	13
4.2 Customer Contacts	14
4.3 Initial Settings	14
4.4 Schedule of Alarms	14
4.5 Schedule of Operators and Indicators	15
4.6 System Operation	15
4.7 System Shutdown	16
5.0 SYSTEM MAINTENANCE	17
5.1 Model 850 Pilot	17
5.2 AC-AL-TC Control System	18
5.3 Flare Stack and Tip	19
6.0 TROUBLESHOOTING	20
6.1 Model 850 Pilot	20



6.2 Ignition Control System	21
7.0 RECOMMENDED SPARE PARTS	22
7.1 Model 850 Pilot	22
7.2 Ignition Control System	22
7.3 Contact Information	23
8.0 PROJECT DRAWINGS	24
9.0 WARRANTY INFORMATION	25



1.0 PROJECT DESCRIPTION

1.1 Project Summary

Flare Industries (hereafter to be called FI) was contracted by EOG RESOURCES c/o KAHUNA VENTURES to engineer, design, fabricate, and supply (1) SFVP-1042 Flare system with Model 850 Pilots. This system was designed by FI to meet the conditions and engineering criteria as specified by EOG RESOURCES and to match previous FI project 10-0246-B. Critical commercial information relating to the project is summarized below.

Flare Industries Job Number	140663-B
Customer Purchase Order	210431
Customer Name	EOG Resources
Customer Location	Hereford, CO
Job Location	Hereford, CO
Date Shipped	November, 19 th , 2014



1.2 Scope of Supply

The following table provides an outline of the major equipment provided by FII:

Item	Qty	Description	Material	Notes
1	2	54' Freestanding Flare Stack (60' OAH)	CS	<ul style="list-style-type: none"> 10" Inner Gas Riser; 42" Outer Air Riser 10" Waste Gas Inlet Baseplate Assembly
2	2	6' Flare Tip	316SS CS	<ul style="list-style-type: none"> Dynamic Purge Seal 10" Gas Connection 42" Plate Flange Connection
3	6	Model 850 Pilot	310SS 316SS	<ul style="list-style-type: none"> Dual Element Type-K thermocouples Direct Spark Ignition Continuous Pilot Relight Function Retractable for easy maintenance
4	2	High Volume/ High Pressure Blower		<ul style="list-style-type: none"> Vane Axial Blower 50HP 480VAC, 3 Phase, 60 Hz
5	2	AC-AL-TC Control System		<ul style="list-style-type: none"> NEMA 4X enclosure Automatic Continuous System Ignition Self-supporting Control Stand

1.3 Process Conditions

The flare system was designed according to the following process specifications as defined by the customer:

Condition	
Maximum Inlet Flow Rate:	20 MMSCFD
Smokeless Flow Rate:	0 to 20 MMSCFD
Molecular Weight:	23.8
Flare Gas BTU Value:	1,297 BTU/SCF
Inlet Temperature:	80°F
Inlet Pressure Required:	4.45 psig
Max Heat Radiation @ Grade:	1,454 BTU/ft ² /hr (including solar)



1.4 Site Conditions

The following site conditions were used to complete the engineering design of the flare system:

Design Wind Speed	90 mph (Structural) 20 mph (Radiation)
Seismic Zone	UBC Zone 0
Elevation	2000 ft
Humidity	High

1.5 Utility Requirements

Utility requirements of the system are as follows:

Pilot Fuel Gas	65 SCFH of Natural Gas @ 8-10 PSIG (per pilot)
Purge Gas	83 SCFH
Electrical	1 Phase / 60 Hz / 120VAC (Controls) 3Phase / 60Hz / 480VAC (Blower)



2.0 ASSEMBLY, INSTALLATION, AND COMMISSIONING PROCEDURES

The following sections outline the procedures required to successfully install the flare system. The intent of these procedures is to provide guidance and general steps to complete the installation. These procedures are not intended to be a substitute for experienced installation personnel. Field assembly and erection of the flare is outside the scope of work to be provided by Flare Industries, Inc., and is the sole responsibility of others. It is understood that the field contractor retained by the customer is familiar with the assembly and erection of tall towers.

The following guidelines provide approximate on-site requirements for personnel and equipment:

Item	Function	Duration	Requirements
Crane	Lift flare stack	As Rqd.	<ul style="list-style-type: none">• Lifting slings• Spreader bar
Tailing Crane	Control base of flare stack during erection	As Rqd.	<ul style="list-style-type: none">• Necessary rigging for tailing operations
Electrician and one assistant	Install controls and electronic pilots	As Rqd.	

2.1 Flare Stack Assembly and Preparation

This section provides guidance for the preparation of the flare stack prior to erection. All steps described within this section are performed with the flare in the horizontal position. It is the responsibility of the field crew to verify and perform the preparation procedure as required and in accordance with the proper codes.

- 2.1.1 Inspect the flare tip, flare riser, and pilot track for any damage that may have occurred during shipment. Also, be sure the flare tip and flare riser are free of any obstructions that may inhibit flow. If any damage is found, contact Flare Industries, immediately (contact information located in section 7.3.)
- 2.1.2 With the stack in the horizontal position, weld the Inner Gas Tip to the top of the inner gas riser section.
- 2.1.3 Bolt the Outer Tip assembly to the flanged connection on the top of the flare stack after installing the supplied gasket.
- 2.1.4 The flare is ready for erection.



2.2 Flare Stack Erection Procedure

This section describes the general procedure required to erect the flare stack. Special care must be taken during the erection procedure to prevent injury and damage. Only field contractors with experience and familiarity with tall tower erection should attempt to install the flare stack. The following steps should serve only as guidance, not the definitive source for the erection activities.

The following is a list of major equipment that is required to complete the procedures described within this section:

- Survey equipment including transit
- Lifting crane
- Tailing crane

- 2.2.1 Secure lifting slings to each of the two lifting trunnions on the flare stack.
- 2.2.2 Secure a tailing line to the end of the stack with a shackle through one of the bolt holes in the base plate.
- 2.2.3 Raise the tip and stack assembly in the horizontal position to approximate elevation 10'. From this height, lift the stack into the vertical position.
- 2.2.4 Raise and swing the vertical stack over the foundation and align it correctly over the anchor bolts. Remove tailing line connection from the base plate assembly.
- 2.2.5 Carefully lower the flare stack onto the foundation anchor bolts.
- 2.2.6 Secure the flare stack to the foundation using the anchor nuts and the provided plate washers.
- 2.2.7 Remove the lifting crane connection.
- 2.2.8 Attach pilot tracks to the flare riser and tip.
- 2.2.9 Remove the Model 850 electronic pilots from their crate and inspect for any damage that may have occurred during shipment. If any damage is found, contact Flare Industries immediately.
- 2.2.10 Insert the pilot wheels into the end of the track nearest the base of the flare and roll the pilot a few feet along the pilot track.

NOTE: Ensure care is taken to prevent catching or damaging the pilot harness as the pilot is deployed.

- 2.2.11 Remove the Pilot Gas Manifold from the crate, and mount to the provided unistrut mounting bracket using the included Unistrut Pipe Clamp.



- 2.2.12 After checking the pilot, remove the ¼" diameter winch cable and winch from the shipping crate.
- 2.2.13 Mount the winch onto its mounting plate using the supplied hardware.
- 2.2.14 Attach one end of the ¼" winch cable to the winch spool and reel several feet of cable onto the spool.
- 2.2.15 Run the loose end of the winch cable through the pulley, located on the flare tip, and back to the winch plate. The winch cable should pass over the pulley and away from the flare stack so that the loose end is on the outer edge of the pulley.
- 2.2.16 Attach the loose end to the pilot with the provided cable clamps.
- 2.2.17 Attach the blower support assembly to the base of the flare stack using the provided hardware.
- 2.2.18 Attach blower to the blower duct on the flare stack assembly using the provided hardware.
- 2.2.19 Connect the customer waste gas service line to the waste gas inlet nozzle (N1) provided for this purpose.
- 2.2.20 Connect the pilot gas line to the provided pilot gas nozzle (C2).
- 2.2.21 Following the erection, check for any damage that may have occurred during the erection procedure.

2.3 System Controls Installation Procedure

This section will guide the installation crew through the general procedure used to install the system controls. The installation should adhere to local electrical code and be conducted by a licensed electrician. Failure to properly ground equipment will result in equipment damage and may injure personnel. It is the responsibility of the customer to provide the appropriate cables and wiring where necessary. The following steps should serve only as guidance, not the definitive source of reference.

For piping and electrical connections, please reference drawings

E38CX0-A-800, E38CX0-A -801, E38CX0-A -802, E38CX0-A -803, E38CX0-A -804, E38CX0-A -805, E38CX0-A -806, E38CX0-A -807, E38CX0-A -808, E38CX0-A -809, E38CX0-A -810, E38CX0-A -811, E38CX0-A -812, E38CX0-A -813, E38CX0-A -900, E38CX0-A -901 & E38CX0-A -902.

- 2.3.1 Remove the AC-AL-TC Control System from its packaging and inspect the equipment for any damage that may have occurred during shipment. If any damage is found, contact Flare Industries immediately (contact information located in section 7.3.)



-
- 2.3.2 Locate and position the AC-AL-TC Control Stand at the desired location for installation.
 - 2.3.3 Secure the AC-AL-TC Control Stand as required.
 - 2.3.4 Following the installation, check for any damage that may have occurred during the process.
 - 2.3.5 Connect the customer electrical service and customer alarm connections to the ignition controls box.
 - 2.3.6 Install Type-K thermocouple wires, inside minimum ½" galvanized conduit, between the AC-AL-TC controls enclosure and the flare stack.
 - 2.3.7 Install ignition power connection cable between the AC-AL-TC controls enclosure and the flare stack.
 - 2.3.8 Verify all electrical connections are tight, as there may have been some loosening and/or settling during shipment.



3.0 SAFETY CONSIDERATIONS

GENERAL COMMENTS FOR SAFETY DURING FLARE OPERATION

CAUTION! Safety during flare operation requires that there is not an air / gas mixture in the flare system at any time. Purge gas, which can consist of either inert gas (preferred), fuel gas, or waste gas, should be used in such quantities as to avoid the entry of air into the flare system. A purge of the flare should occur prior to the release of waste gas into the system and before the ignition system is turned on. Explosion hazards can exist during the operation of a flare system **only** if the ignition system has been initiated and before the flare is purged. Therefore, the ignition system must not be operated until the system is thoroughly purged and the flare system is absolutely gas tight.

3.1 Pre-Start-Up Checklist

The following items should be checked before starting the flare:

- Verify that all electrical devices are connected to the proper power sources.
- All system lines should be dry and free of dirt and foreign matter.
- Check that all drain and vent valves are closed and that all drain and vent plugs are tightly secured.
- Check all control valves for proper function.
- Purge the flare for 10 volumes of the flare and flare header (20-30 minutes minimum).
- To provide smokeless operation of the Air Assist Flare, the Blower should always be in operation whenever the flare is operating.

3.2 System Purge

There is danger of severe explosion in the flare system if the flare is ignited before the flare system has been purged. Ensure that a system purge from the beginning of the system, all the way to the flare, occurs using a volume of non-condensable gas equal to ten times the volume of the flare system. The flare system includes all piping from relief valves toward the flare and riser to the elevation of the flare at the point of combustion.

Suitable purge gases include natural gas, propane, nitrogen, inert gas, carbon dioxide or butane, if temperature level is 32°F or above. Steam as purge volume is not recommended for two reasons. The first is that the steam is at an elevated temperature and the steam content of the flare will shrink as the steam cools and condenses to draw air back into the flare system. The second is that as the steam condenses, water will be present in the flare system partially blocking the system, which presents a freezing hazard. In addition, the condensation accelerates corrosion.



The flare should be ignited only after the "SYSTEM PURGE" is complete as outlined above and preferably as the purge gas is being admitted. If the purge gas is combustible, the burning of the purge gas at the flare will be proof of ignition.

Additionally, this flare system is designed to provide smokeless operation at a full flow status. Both to ensure smokeless operation and to provide a complete system purge, the blower must be started and run for at least one minute prior to placing the flare system in operation.



4.0 OPERATING SUMMARY

The operating summary outlines the critical information related to the AC-AL-TC control system. The following sections will help the system operator become familiar with the controls, initial settings, and general operation of the system. System purge must be completed prior to any ignition or waste gas combustion.

4.1 Controls Summary

The AC-AL-TC control system was designed by FI to provide reliable control and monitoring of the flare system. By design, the control system will operate and monitor the flare system with minimal user input. The following is a list of the major components used to control the flare system:

- Type-K thermocouple – Collects pilot temperature readings
- Temperature controller – Monitors pilot temperatures
- Timer – Controls ignition sequence timing
- Ignition Transformer – Generates high-energy spark to ignite pilots
- Model 850 Pilots – Ignite waste gas flow

Before any ignition sequences begin, the flare should be checked and fully purged as described in section 3.0. The blower must be started prior to initiating start-up of the flare system, to complete the purge of the flare system.

Startup of the flare begins by turning ON the Main power. The Power On and System Failure Indicators will illuminate. As soon as the system is energized, the ignition transformer will generate a high-energy spark for the Model 850 Pilot. When pilot fuel gas is supplied to the Model 850 Pilot, the high-energy spark will ignite the fuel gas and light the pilots.

Once the pilot is ignited, the temperature controller and Type-K thermocouples are used to monitor the status of the pilots. Upon reaching the minimum pilot temperature set point (250°F.), SYSTEM FAILURE indicators will go out. In the event of system failure, the temperature at the pilot nozzle will begin to decrease. When pilot temperature falls below the temperature controller set point (250°F), the SYSTEM FAILURE light will illuminate and activate the customer alarm. The indicator and customer alarm will remain activated until ignition is successful and the pilot temperature reaches 250°F.



4.2 Customer Contacts

Customer contacts are used to communicate data between the flare's control system and the existing customer controls. These contacts typically communicate critical information such as pilot failure notification, liquid level status, or various service pressures. The following customer contacts have been provided:

Interlock Description	Point of Connection
Ignition Failure – Pilot #1	TBA 190220 B to C
Ignition Failure – Pilot #2	TBA 190221 B to C
Ignition Failure – Pilot #3	TBA 190222 B to C

4.3 Initial Settings

All system controls have been properly adjusted before shipment and arrive ready for operation. The following settings are to be used for information only and should only be used for modification in the event of necessary adjustment.

Tag #	Component	Set Point
1TC90001	Temperature controller (Pilot #1)	250°F
1TC90002	Temperature controller (Pilot #2)	250°F
1TC90003	Temperature controller (Pilot #3)	250°F

4.4 Schedule of Alarms

Alarm	Associated Component	Cause	Effect
SYSTEM FAILURE	<ul style="list-style-type: none">Temperature Controller	<ul style="list-style-type: none">Indicates that the temperature controller has failed to sense the lit pilot for the period of time determined by the timer setting.	<ul style="list-style-type: none">Customer alarm contacts energizedIGNITION FAILURE LIGHT illuminates



4.5 Schedule of Operators and Indicators

This section provides a description of the operators and indicators located on the main control panel. One should become familiar with the meaning and function of each component prior to any attempt to operate the system.

Item	Operator or Indicator	Tag #	Function
Switches and Pushbuttons			
1	MAIN POWER OFF/ON	1SS90001	<ul style="list-style-type: none"> Controls main power for entire control system Must be in the ON position to operate system
Note:			<ul style="list-style-type: none"> When the MAIN POWER OFF/ON switch is turned to the ON position, ignition sequence (sparking) begins immediately.
Indicators			
1	POWER ON	1LT90201	<ul style="list-style-type: none"> Indicates the system is energized
2	SYSTEM FAILURE	1LT90202	<ul style="list-style-type: none"> Indicates that pilot #1 is out and the system is not attempting to re-light the pilot
3	SYSTEM FAILURE	1LT90203	<ul style="list-style-type: none"> Indicates that pilot #2 is out and the system is not attempting to re-light the pilot
4	SYSTEM FAILURE	1LT90204	<ul style="list-style-type: none"> Indicates that pilot #3 is out and the system is not attempting to re-light the pilot

4.6 System Operation

This section describes the automatic operation of the ignition control system. While operating, the system controls will monitor the Model 850 Pilot temperature. If pilot temperature drops below 250°F the System Failure light illuminates and generates a system failure alarm while the pilot continues to spark.



4.6.1 Fully purge the flare system according to section 3.2.

4.6.2 Start the Blower. Blower operation as the flare is started up will assist in the completion of the purge process of the flare and ensure that as waste gas is admitted into the flare, the flare will maintain smokeless operation.

NOTE: In some cases, igniting the pilot may be difficult with the blower running. In the event that it is impossible to get the pilot to light while the blower is running, complete a one (1) minute purge of the air riser using the blower. Secure the blower. Start the pilot and then immediately re-initiate blower operation.

4.6.3 Open the valve controlling the pilot fuel line.

4.6.4 Turn the MAIN POWER switch (1SS90001) to the ON position. Once the system is energized, the pilot will automatically begin the ignition sequence.

4.6.5 Within several minutes, the SYSTEM FAILURE indicators should go out, indicating the pilots have ignited. The time delay is a result of the time required for the pilot thermocouple to reach the minimum temperature set point (250°F). Keep in mind that the time delay may vary depending on ambient conditions. If the pilot does not ignite, refer to section 6.0 for troubleshooting.

4.6.6 Once operating, the system is ready to accept waste gas flow.

4.7 System Shutdown

The system should only be shut down if the flare is intended for intermittent use. Once the system has been shut down, any ignition operation and system monitoring will end.

4.7.1 Verify that waste gas flow has ceased and that any corresponding waste gas control valves are fully closed.

4.7.2 Close the valves controlling the pilot fuel gas. This will extinguish the Model 850 Pilots.

4.7.3 Turn the MAIN POWER OFF/ON switch to the OFF position. The POWER ON indicator should go out, indicating the system has been shut down.

4.7.4 Stop the blower.



5.0 SYSTEM MAINTENANCE

The following sections summarize the required maintenance of the flare system. Diligence to the maintenance is required to ensure the system remains in optimum operating condition. Failure to maintain the system as required could lead to damage or malfunction.

5.1 Model 850 Pilot

Maintenance Number	Action	Monthly	Quarterly	Semi-Annually	Annually
<i>Inspect entire flare, base assembly, and guywire package for structural integrity and damage after any extreme wind event or seismic activity.</i>					
IM-1	Verify the pilot is operating by visual check at control panel and flare tip	✓			
IQ-1	Verify electronic ignition is operating by manually igniting all pilots		✓		
IS-1	Remove pilot strainer and clear debris			✓	
IS-2	Inspect pilot head for flame damage or excessive corrosion			✓	



5.2 AC-AL-TC Control System

Maintenance Number	Action	Monthly	Quarterly	Semi-Annually	Annually
Since some components are susceptible to damage by electrostatic discharge, check the control system for proper operation following lightning storms.					
EM-1	Check control switches to verify each operates freely, without binding	✓			
EM-2	Check all indicators to verify that each is functioning appropriately	✓			
EQ-1	Inspect each enclosure for leaks and ensure that all properly seal		✓		
EQ-2	Confirm that all customer contacts are in working order		✓		
EA-1	Check that all electrical connections are tight				✓
EA-2	Inspect system wiring for deterioration, discoloration, corrosion fraying				✓
EA-3	Inspect control system for proper grounding connection				✓



5.3 Flare Stack and Tip

Maintenance Number	Action	Monthly	Quarterly	Semi-Annually	Annually
<i>Inspect entire flare, base assembly, and guywire package for structural integrity and damage after any extreme wind event or seismic activity.</i>					
SQ-1	Verify all process connections are properly connected and in operating conditions		✓		
SS-1	Examine anchor bolts and base support plates assembly for corrosion			✓	
SS-2	Check foundation for heat damage or excessive cracking due to service loads			✓	
SA-1	Inspect flare riser for corrosion and repair as necessary				✓
SA-2	Check flare tip for flame damage and corrosion				✓
SA-3	Inspect flare tip flange bolts and verify each bolt's torque				✓



6.0 TROUBLESHOOTING

The following sections provide troubleshooting to help solve any potential problems that may arise during the operation of the flare system. If required, contact Flare Industries, Inc. for technical assistance.

6.1 Model 850 Pilot

Problem	Cause	Solution
Pilot will not light	• System power is not on	• Energize system
	• Ignition transformer has failed	• Replace transformer
	• Lack of pilot fuel gas	• Verify that all fuel gas valves are open
	• Fuel gas lines may be blocked	• Clean strainers on pilot and customer fuel gas lines
	• Fuel gas lines may contain condensation	• Drain condensation from fuel gas lines
	• Insufficient fuel gas pressure	• Verify fuel gas is at min. 8 psig • Increase fuel gas pressure
	• Inspirator orifice is incorrectly sized	• Contact FII for replacement orifice
Pilot will not stay lit	• Fuel gas is not on	• Turn on fuel gas
	• Fuel gas pressure is too low	• Set fuel gas pressure to 8 psig
	• Fuel is contaminated	• Upgrade fuel supply
	• Fuel gas does not have BTU value high enough to sustain ignition	• Upgrade fuel supply
	• Pilot nozzle is damaged	• Replace pilot nozzle



6.2 Ignition Control System

Problem	Cause	Solution
	<ul style="list-style-type: none">• Associated control relay is damaged	<ul style="list-style-type: none">• Replace appropriate control relay
Pilot is ignited but the controls system does not acknowledge the status	<ul style="list-style-type: none">• Pilot thermocouple is damaged	<ul style="list-style-type: none">• At the thermocouple junction box, switch the pilot thermocouple connections to the second thermocouple element• Replacement thermocouple is required
	<ul style="list-style-type: none">• Temperature controller is faulty	<ul style="list-style-type: none">• Replace temperature controller
	<ul style="list-style-type: none">• System wiring is damaged	<ul style="list-style-type: none">• Check all wiring and connections



7.0 RECOMMENDED SPARE PARTS

The following sections include lists of recommended spare parts for the flare system. When ordering spare parts, please indicate the FII part number and the FII project number. This information will help expedite your orders and ensure you receive exactly what you require.

7.1 Model 850 Pilot

Item	FII Part #	Description	For S.U. and Comm.	For 2 Years Operation
1	TRAIGN10K01	Ignition Transformer Pri. 120VAC, Sec 10KVDC	0	1
2	PLTSPARKPLUG13	Model 850 Pilot Spark Plug	1	2
3	TEMTTC116DK01	Thermocouple, Type KK, Dual Ele.	1	1
4	PLTINSP03-SS	Model 850 Pilot Inspirator	0	1
5	STR005020201	Model 850 Pilot Strainer, SS	0	1
6	TEMTCNHX-K-MF	Ceramic Thermocouple Connector	2	4

7.2 Ignition Control System

Item	FII Part #	Description	For S.U. and Comm.	For 2 Years Operation
1	ELETIMER00	Timer (Omicron)	0	1
2	RELSS40A06	Control Relay	0	1
3	RELGEN2P120A1501	General Relay, 120VAC	0	1
4	FUS0030GGM301	Fuse, 3Amp-250V, Glass	2	3
5	FUS0010GGM101	Fuse, 1Amp-250V, Glass	2	3
6	TEMTICE5CN04	Temperature Controller	1	2



7.3 Contact Information

INTERNATIONAL HEADQUARTERS

Flare Industries, an Aereon Company
16310 Bratton Lane
Building 3, Suite 350
Austin, Texas 78728

TOLL-FREE PHONE: (800) 475-9473

FAX: (512) 836-3025

WEB: www.aereon.com

NEW EQUIPMENT SALES

PHONE: (512) 836-9473

EMAIL: sales@aereon.com

SPARE PARTS

PHONE: (512) 836-9473 EXT 145

EMAIL: spareparts@aereon.com

SERVICE & TECHNICAL ASSISTANCE

PHONE: (512) 836-9473 EXT 145

EMAIL: service@aereon.com

SHIPPING DEPARTMENT HOURS

Monday-Friday: 8:00AM-3:00PM CST (U.S.)

Saturday-Sunday: CLOSED

CONTACT FLARE INDUSTRIES LOGISTICS COORDINATOR FOR APPOINTMENT

(512) 836-9473

OFFICE HOURS

Monday-Friday: 8:30AM-4:30PM CST (U.S.)

Saturday-Sunday: CLOSED



8.0 PROJECT DRAWINGS

Document #	Description
140663-B-P01	Piping & Instrumentation Diagram
140663-B-G01	General Arrangement, SFVP-1042 Air Flare System
140663-B-G05	General Arrangement, AC-AL-TC Control Stand
E38CX0-A-700	Drawing Directory & Symbol Legend
E38CX0-A-701	Wiring & General Notes
E38CX0-A-800	1CP800 – Flare Control Panel Layout
E38CX0-A-801	1CP800 – Flare Control Panel BOM
E38CX0-A-802	1CP800 – Flare Control Panel Operator Detail
E38CX0-A-803	1CP803 – Ignition XFMR Control Panel Layout
E38CX0-A-804	1CP803 – Ignition XFMR Control Panel BOM
E38CX0-A-805	1CP803 – Ignition XFMR Operator Detail
E38CX0-A-806	1CP806 – Ignition XFMR Control Panel Layout
E38CX0-A-807	1CP806 – Ignition XFMR Control Panel BOM
E38CX0-A-808	1CP806 – Ignition XFMR Operator Detail
E38CX0-A-809	1CP809 – Ignition XFMR Control Panel Layout
E38CX0-A-810	1CP809 – Ignition XFMR Control Panel BOM
E38CX0-A-811	1CP809 – Ignition XFMR Operator Detail
E38CX0-A-812	1JB812 & 1JB806A-C – Terminal Jbox General Layout
E38CX0-A-813	1JB812 & 1JB806A-C – Terminal Jbox Terminal Detail
E38CX0-A-900	Ladder Logic Diagram
E38CX0-A-901	Ladder Logic Diagram
E38CX0-A-902	Ladder Logic Diagram



9.0 WARRANTY INFORMATION

If within 12 months after the date of notice of availability for shipment, or one year after start-up, whichever occurs first, any Goods furnished by Seller prove to be defective in material or workmanship, and Seller is so notified in writing, upon examination by Seller, Seller will, at Seller's discretion, either repair the Goods or supply identical or substantially similar replacement Goods, F.O.B. manufacturing facility. Any repaired or replacement Goods will be warranted against defects in material or workmanship for the unexpired portion of the warranty applicable to the particular Goods. Goods not manufactured by Seller are subject only to warranties of Seller's vendors and Seller hereby assigns to Buyer all rights in such vendors warranties, provided however. Seller shall furnish to the Buyer reasonable assistance in enforcing such rights. Seller will not be responsible for costs of making access for, or of export/import, shipment, removal or installation of any items needed to repair or replace any defective Goods. Inexpensive items requiring repairs or replacement and routine maintenance-related or consumable items shall be outside the scope of these limited warranties. With regard to warranty-related remedial work, the Seller will not be responsible for materials or workmanship of others or shipment, labor and other related expenses for any work performed by others in the repair or replacement of defective Goods, without Seller's prior written consent. Seller's performance guarantees, if any, shall be deemed to be met by a satisfactory demonstration of the performance guarantees during a performance test, which shall be the responsibility of the Buyer, pursuant to mutually agreed-upon test procedures. If the performance test is not completed within 45 days after notice of availability for shipment, the performance test shall be deemed to be satisfactorily performed for any and all purposes.

These limited warranties will be voided if: (a) the Goods were not stored, installed, maintained or operated in accordance with accepted U.S. industrial practice and any specific instructions provided by Seller; (b) the Goods were subjected to any accident, misapplication, environmental contaminant, corrosion, abrasion, abuse or misuse; (c) Buyer used, repaired, or modified the Goods after discovery of the defect without Seller's prior written consent to continue use; or (d) Buyer fails to permit Seller to examine the Goods and operating data or fails to furnish routine operating data sufficient to determine the nature of the defect claimed.

THERE ARE NO OTHER WARRANTIES, EXPRESS OR IMPLIED EXCEPT, AS EXPRESSLY PROVIDED HEREIN; SELLER EXTENDS NO IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE. NO WARRANTY, EITHER EXPRESS OR IMPLIED, IS GIVEN AS TO THE CAPACITY, EFFICIENCY OR PERFORMANCE OF THE GOODS, EXCEPT AS MAY BE EXPRESSLY AGREED TO BY THE PARTIES IN WRITING.

NSR Application A0001327
Fairway Compressor Station and Water Transfer Facility
F026209
July 20, 2015

Reviewer NTH
cc: _____
Modeler _____
D.E. _____
File _____
IMP FID _____

Air Quality Division
Application for NSR Permit

Jul 23 2015, 15:23:06

- **NSR Application**

Date application received : 07/20/2015

Is this a legacy NSR Application? No

This information should be filled out for each New Source Review (NSR) application. An NSR permit is required for all air contaminant sources (emissions units) installed or modified after January 1, 1974. See the application instructions for additional information.

Emission Unit application reason summary :	<input type="checkbox"/> Construction	<input type="checkbox"/> Synthetic Minor
	<input checked="" type="checkbox"/> Modification	<input type="checkbox"/> Temporary Permit
	<input type="checkbox"/> Reconstruction	<input type="checkbox"/> Other

Facility Type :

Sage Grouse :

- **Purpose of Application**

Please summarize the reason this permit is being applied for.

modify the Fairway Compressor Station to reflect the as built configuration, include new equipment, include 500 hours of flaring due to routine maintenance, and include new equipment associated with the Water Transfer Facility

Has the facility changed location or is it a new/greenfield facility? No

Does production at this facility contain H2S? No

- **Federal Rules Applicability - Facility Level**

Prevention of Significant Deterioration (PSD) Not affected
These rules are found under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review Not affected
These rules are found under WAQSR Chapter 6, Section 13.

- **Trade Secret Information** - One or more Emissions Units in this application contains trade secret information.

No

- **Permit Application Contact** - Newly created contacts and application contact changes will be saved when the application is saved.

Curtis Rice	Senior Environmental Specialist	EOG Resources, Inc.
Name	Title	Company
600 17th Street, Suite 1000N	Denver, CO	80202
Street Address	City/Township, State	Zip Code
(303) 262-9946		Curtis_Rice@eogresources.com
Phone	Fax	E-mail

- **Modeling Section**

Ambient Air Quality Impact Analysis: WAQSR Chapter 6, Section 2(c)(ii) requires that permit applicants demonstrate that a proposed facility will not prevent the attainment or maintenance of any ambient air quality standard.

Has the applicant contacted AQD to determine if modeling is required? No

Is a modeling analysis part of this application? No

Is the proposed project subject to Prevention of Significant Deterioration (PSD) requirements? No

- **Application Attachments**

Required Attachment	Public Document Id	Attachment Type	Description
X	6810	Emissions Calculations	emission calculations
X	6811	Cover Letter/Project Description	Cover Letter

- **Notes**

User Name	Date	Note
-----------	------	------

Section II - Specific Air Contaminant Source Information

AQD EU ID: BVC001

AQD EU description:

Company EU ID: BVC1

Company EU Description: compressor
blowdown - routed
to flare

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Modification

When will you begin to modify the air contaminant source?

07/20/2015

- **Emission Unit Type Specific Information**

Emission Unit Type : Blow-down/Venting/Well Completion

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

Hours/day : 24

Hours/year : 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

Basis for Determination Options:

- *Manufacturer Data*
- *Test results for this source*
- *Similar source test results*
- *GRICalc*
- *Tanks Program*
- *AP-42*
- *Other. If this is selected, attach a document with a description of the method used.*

Criteria Pollutants :

Pollutant	Pre- Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determinatio n*
		Potential to Emit (PTE)*	Units*			
Particulate emissions (PE/PM) (formerly particulate matter, PM)	0	0		0	0	
PM # 10 microns in diameter (PE/PM10)	0	0		0	0	
PM # 2.5 microns in diameter (PE/PM2.5)	0	0		0	0	
Sulfur dioxide (SO2)	0	0		0	0	

Nitrogen oxides (NOx)	0	0		0	0	
Carbon monoxide (CO)	0	0		0	0	
Volatile organic compounds (VOC)	1.6	0		0	0	AP-42
Lead (Pb)	0	0		0	0	
Total Hazardous Air Pollutants (HAPs)	0.1	0		0	0	AP-42
Fluoride (F)	0	0		0	0	
Hydrogen Sulfide (H ₂ S)	0	0		0	0	
Mercury (Hg)	0	0		0	0	
Total Reduced Sulfur (TRS)	0	0		0	0	
Sulfuric Acid Mist (SAM)	0	0		0	0	

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

Greenhouse Gases (GHGs):

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- Best Available Control Technology (BACT)

Was a BACT Analysis completed for this unit? No

- Lowest Achievable Emission Rate (LAER)

Was a LAER Analysis completed for this unit? No

- Federal and State Rule Applicability

New Source Performance Standards (NSPS)

New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)

National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)

Not affected

National Emission Standards for Hazardous Air Pollutants
(NESHAP Part 63) standards are listed under 40 CFR 63.

Prevention of Significant Deterioration (PSD)

Not Affected

These rules are found under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review

Not Affected

These rules are found under WAQSR Chapter 6, Section 13.

- **Emission Unit Attachments**

Required Attachment	Public Document Id	Attachment Type	Description
---------------------	--------------------	-----------------	-------------

Section II - Specific Air Contaminant Source Information

AQD EU ID: BVC002

AQD EU description:

Company EU ID: BVC2

Company EU Description: pigging - routed
to flare

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Modification

When will you begin to modify the air contaminant source?

07/20/2015

- **Emission Unit Type Specific Information**

Emission Unit Type : Blow-down/Venting/Well Completion

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

Hours/day : 24

Hours/year : 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

Basis for Determination Options:

- *Manufacturer Data*
- *Test results for this source*
- *Similar source test results*
- *GRICalc*
- *Tanks Program*
- *AP-42*
- *Other. If this is selected, attach a document with a description of the method used.*

Criteria Pollutants :

Pollutant	Pre- Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
		Potential to Emit (PTE)*	Units*			
Particulate emissions (PE/PM) (formerly particulate matter, PM)	0	0		0	0	
PM # 10 microns in diameter (PE/PM10)	0	0		0	0	
PM # 2.5 microns in diameter (PE/PM2.5)	0	0		0	0	
Sulfur dioxide (SO2)	0	0		0	0	
Nitrogen oxides (NOx)	0	0		0	0	

Carbon monoxide (CO)	0	0		0	0	
Volatile organic compounds (VOC)	84.7	0		0	0	AP-42
Lead (Pb)	0	0		0	0	
Total Hazardous Air Pollutants (HAPs)	3.4	0		0	0	AP-42
Fluoride (F)	0	0		0	0	
Hydrogen Sulfide (H ₂ S)	0	0		0	0	
Mercury (Hg)	0	0		0	0	
Total Reduced Sulfur (TRS)	0	0		0	0	
Sulfuric Acid Mist (SAM)	0	0		0	0	

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

Greenhouse Gases (GHGs):

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- Best Available Control Technology (BACT)

Was a BACT Analysis completed for this unit? No

- Lowest Achievable Emission Rate (LAER)

Was a LAER Analysis completed for this unit? No

- Federal and State Rule Applicability

New Source Performance Standards (NSPS)

New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)

National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)

National Emission Standards for Hazardous Air Pollutants

Not affected

(NESHAP Part 63) standards are listed under 40 CFR 63.

Prevention of Significant Deterioration (PSD)

These rules are found under WAQSR Chapter 6, Section 4.

Not Affected

Non-Attainment New Source Review

These rules are found under WAQSR Chapter 6, Section 13.

Not Affected

- **Emission Unit Attachments**

Required Attachment	Public Document Id	Attachment Type	Description
---------------------	--------------------	-----------------	-------------

Section II - Specific Air Contaminant Source Information

AQD EU ID: DHY001

AQD EU description:

Company EU ID: DHY1

Company EU Description: 20 MMCFD TEG dehydration unit w/reboiler overheads condenser, glycol flash separator, two (2) Kimray Model 21015PV glycol circulation pumps, and 0.6 MMBtu/hr reboiler heater

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Modification

When will you begin to modify the air contaminant source?

07/20/2015

- **Emission Unit Type Specific Information**

Emission Unit Type : Dehydration Unit

Temperature of Wet Gas (F): 100

Water Content of Dry Gas 7.00
(lbs H₂O/MMscf):

Pressure of Wet Gas (psig): 1,000.00

Manufacturer Name of Glycol Kimray
Circulation Pump:

Water Content of Wet Gas
(lbs H₂O/MMscf):

Model Name and Number of 21015PV
Glycol Circulation Pump:

Flow Rate of Dry Gas 20.00
(MMscfd):

Type of Glycol Circulation Gas
Pump:

Pump Volume Ratio 0.08
(acfm/gpm):

Actual LEAN Glycol 3.5000
Circulation Rate
(gallons/minute):

Maximum LEAN Glycol 3.5000
Circulation Rate
(gallons/minute):

Source of Motive Gas for field gas
Pump:

Additional Gas Stripping: No

Include Glycol Flash Yes
Tank/Separator:

Flash Tank Off Gas Stream 4,160.00
(scf/hr):

Operating Temperature (F): 80

Where are Flash vapors compressor inlet
Routed?

Operating Pressure (psig): 60.00

Is Vessel Heated: No

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

Hours/day : 24

Hours/year : 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant,

including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

Basis for Determination Options:

- *Manufacturer Data*
- *Test results for this source*
- *Similar source test results*
- *GRICalc*
- *Tanks Program*
- *AP-42*
- *Other. If this is selected, attach a document with a description of the method used.*

Criteria Pollutants :

Pollutant	Pre- Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determinatio n*
		Potential to Emit (PTE)*	Units*			
Particulate emissions (PE/PM) (formerly particulate matter, PM)	0	0		0	0	
PM # 10 microns in diameter (PE/PM10)	0	0		0	0	
PM # 2.5 microns in diameter (PE/PM2.5)	0	0		0	0	
Sulfur dioxide (SO2)	0	0		0	0	
Nitrogen oxides (NOx)	0	0		0	0	
Carbon monoxide (CO)	0	0		0	0	
Volatile organic compounds (VOC)	900.8	0		3.22	14.1	GRI GlyCalc
Lead (Pb)	0	0		0	0	
Total Hazardous Air Pollutants (HAPs)	170.6	0		0.23	1	GRI GlyCalc
Fluoride (F)	0	0		0	0	
Hydrogen Sulfide (H2S)	0	0		0	0	
Mercury (Hg)	0	0		0	0	
Total Reduced Sulfur (TRS)	0	0		0	0	
Sulfuric Acid Mist (SAM)	0	0		0	0	

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

Pollutant	Pollutant Category	Pre- Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determinati on*
			Potential to Emit (PTE)*	Units*			

Greenhouse Gases (GHGs):

Pollutant	Pollutant	Pre-	Efficiency Standards	Potential to	Potential to	Basis for
-----------	-----------	------	----------------------	--------------	--------------	-----------

	Category	Controlled Potential Emissions (tons/yr)	Potential to Emit (PTE)*	Units*	Emit (PTE) (lbs/hr)*	Emit (PTE) (tons/yr)*	Determination*
--	----------	--	--------------------------	--------	----------------------	-----------------------	----------------

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- **Best Available Control Technology (BACT)**

Was a BACT Analysis completed for this unit? No

- **Lowest Achievable Emission Rate (LAER)**

Was a LAER Analysis completed for this unit? No

- **Federal and State Rule Applicability**

New Source Performance Standards (NSPS)

New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)

National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

Subject to subpart

Part 63 NESHAP Subpart
HH - Oil and Natural Gas Production Facilities

Prevention of Significant Deterioration (PSD)

These rules are found under WAQSR Chapter 6, Section 4.

Not Affected

Non-Attainment New Source Review

These rules are found under WAQSR Chapter 6, Section 13.

Not Affected

- **Emission Unit Attachments**

Required Attachment	Public Document Id	Attachment Type	Description
---------------------	--------------------	-----------------	-------------

Section II - Specific Air Contaminant Source Information

AQD EU ID: FLR001

AQD EU description:

Company EU ID: FL1

Company EU Description: Flare to control dehydration unit and for emergency/upset/maintenance activities

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Modification

When will you begin to modify the air contaminant source?

07/20/2015

- **Emission Unit Type Specific Information**

Emission Unit Type : Flare

Emergency Flare Only : No

Ignition Device Type : Pilot

Btu Content (Btu/scf) : 1,565.00

Smokeless Design : Yes

Assist Gas Utilized : No

Waste Gas Volume : 101,395.00

Units : scf/day

Installation Date : 01/27/2015

Continuously Monitored : Yes

Describe Continuous Monitoring : continuous pilots monitored through Cygnet

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

Hours/day : 24

Hours/year : 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

Basis for Determination Options:

- *Manufacturer Data*
- *Test results for this source*
- *Similar source test results*
- *GRICalc*
- *Tanks Program*
- *AP-42*
- *Other. If this is selected, attach a document with a description of the method used.*

Criteria Pollutants :

Pollutant	Pre- Controlled	Efficiency Standards	Potential to Emit (PTE)	Potential to Emit (PTE)	Basis for Determination

	Potential Emissions (tons/yr)	Potential to Emit (PTE)*	Units*	(lbs/hr)*	(tons/yr)*	n*
Particulate emissions (PE/PM) (formerly particulate matter, PM)	0	0		0	0	
PM # 10 microns in diameter (PE/PM10)	0	0		0	0	
PM # 2.5 microns in diameter (PE/PM2.5)	0	0		0	0	
Sulfur dioxide (SO2)	0	0		0	0	
Nitrogen oxides (NOx)	0	0		6.27	27.5	AP-42
Carbon monoxide (CO)	0	0		1.55	6.8	AP-42
Volatile organic compounds (VOC)	0	0		0	0	
Lead (Pb)	0	0		0	0	
Total Hazardous Air Pollutants (HAPs)	0	0		0	0	
Fluoride (F)	0	0		0	0	
Hydrogen Sulfide (H2S)	0	0		0	0	
Mercury (Hg)	0	0		0	0	
Total Reduced Sulfur (TRS)	0	0		0	0	
Sulfuric Acid Mist (SAM)	0	0		0	0	

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

Greenhouse Gases (GHGs):

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected. Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- Best Available Control Technology (BACT)

Was a BACT Analysis completed for this unit? No

- Lowest Achievable Emission Rate (LAER)

Was a LAER Analysis completed for this unit? No

- Federal and State Rule Applicability

New Source Performance Standards (NSPS)
New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)

National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

Not affected

Prevention of Significant Deterioration (PSD)

These rules are found under WAQSR Chapter 6, Section 4.

Not Affected

Non-Attainment New Source Review

These rules are found under WAQSR Chapter 6, Section 13.

Not Affected

- **Emission Unit Attachments**

Required Attachment	Public Document Id	Attachment Type	Description
---------------------	--------------------	-----------------	-------------

Section II - Specific Air Contaminant Source Information

AQD EU ID: FLR002

AQD EU description:

Company EU ID: FL2

Company EU Description: 48" x 12' Cimarron
standard enclosed
combustion device

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Modification

When will you begin to modify the air contaminant source?

07/20/2015

- **Emission Unit Type Specific Information**

Emission Unit Type : Flare

Emergency Flare Only : No

Btu Content (Btu/scf) : 2,308.00

Assist Gas Utilized : No

Waste Gas Volume : 191.60

Installation Date : 01/27/2015

Continuously Monitored : Yes

Describe Continuous monitoring : continuous pilot flame monitored through Cygnet
Monitoring :

Ignition Device Type : Pilot

Smokeless Design : Yes

Units : scf/hr

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

Hours/day : 24

Hours/year : 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

Basis for Determination Options:

- *Manufacturer Data*
- *Test results for this source*
- *Similar source test results*
- *GRICalc*
- *Tanks Program*
- *AP-42*
- *Other. If this is selected, attach a document with a description of the method used.*

Criteria Pollutants :

Pollutant	Pre- Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determinatio n*
		Potential to Emit (PTE)*	Units*			

Particulate emissions (PE/PM) (formerly particulate matter, PM)	0	0		0	0	
PM # 10 microns in diameter (PE/PM10)	0	0		0	0	
PM # 2.5 microns in diameter (PE/PM2.5)	0	0		0	0	
Sulfur dioxide (SO2)	0	0		0	0	
Nitrogen oxides (NOx)	0	0		0.07	0.3	AP-42
Carbon monoxide (CO)	0	0		0.02	0.1	AP-42
Volatile organic compounds (VOC)	0	0		0	0	
Lead (Pb)	0	0		0	0	
Total Hazardous Air Pollutants (HAPs)	0	0		0	0	
Fluoride (F)	0	0		0	0	
Hydrogen Sulfide (H2S)	0	0		0	0	
Mercury (Hg)	0	0		0	0	
Total Reduced Sulfur (TRS)	0	0		0	0	
Sulfuric Acid Mist (SAM)	0	0		0	0	

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

Greenhouse Gases (GHGs):

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- Best Available Control Technology (BACT)

Was a BACT Analysis completed for this unit? No

- Lowest Achievable Emission Rate (LAER)

Was a LAER Analysis completed for this unit? No

- Federal and State Rule Applicability

New Source Performance Standards (NSPS)

New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)

Not affected

National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

Prevention of Significant Deterioration (PSD)

Not Affected

These rules are found under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review

Not Affected

These rules are found under WAQSR Chapter 6, Section 13.

- **Emission Unit Attachments**

Required Attachment	Public Document Id	Attachment Type	Description
---------------------	--------------------	-----------------	-------------

Section II - Specific Air Contaminant Source Information

AQD EU ID: FLR003

AQD EU description:

Company EU ID: FL3

Company EU Description: 48" x 12' Cimarron
standard enclosed
combustion device

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Modification

When will you begin to modify the air contaminant source?

07/20/2015

- **Emission Unit Type Specific Information**

Emission Unit Type : Flare

Emergency Flare Only : No

Btu Content (Btu/scf) : 1,565.00

Assist Gas Utilized : No

Waste Gas Volume : 504.00

Installation Date : 07/20/2015

Continuously Monitored : Yes

Describe Continuous continuous pilot flame monitored through Cygnet
Monitoring :

Ignition Device Type : Pilot

Smokeless Design : Yes

Units : scf/day

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

Hours/day : 24

Hours/year : 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

Basis for Determination Options:

- *Manufacturer Data*
- *Test results for this source*
- *Similar source test results*
- *GRICalc*
- *Tanks Program*
- *AP-42*
- *Other. If this is selected, attach a document with a description of the method used.*

Criteria Pollutants :

Pollutant	Pre- Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determinatio n*
		Potential to Emit (PTE)*	Units*			

Particulate emissions (PE/PM) (formerly particulate matter, PM)	0	0		0	0	
PM # 10 microns in diameter (PE/PM10)	0	0		0	0	
PM # 2.5 microns in diameter (PE/PM2.5)	0	0		0	0	
Sulfur dioxide (SO2)	0	0		0	0	
Nitrogen oxides (NOx)	0	0		0.005	0.02	AP-42
Carbon monoxide (CO)	0	0		0.002	0.01	AP-42
Volatile organic compounds (VOC)	0	0		0	0	
Lead (Pb)	0	0		0	0	
Total Hazardous Air Pollutants (HAPs)	0	0		0	0	
Fluoride (F)	0	0		0	0	
Hydrogen Sulfide (H2S)	0	0		0	0	
Mercury (Hg)	0	0		0	0	
Total Reduced Sulfur (TRS)	0	0		0	0	
Sulfuric Acid Mist (SAM)	0	0		0	0	

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

Greenhouse Gases (GHGs):

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- Best Available Control Technology (BACT)

Was a BACT Analysis completed for this unit? No

- Lowest Achievable Emission Rate (LAER)

Was a LAER Analysis completed for this unit? No

- Federal and State Rule Applicability

New Source Performance Standards (NSPS)

New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)

Not affected

National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

Prevention of Significant Deterioration (PSD)

Not Affected

These rules are found under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review

Not Affected

These rules are found under WAQSR Chapter 6, Section 13.

- **Emission Unit Attachments**

Required Attachment	Public Document Id	Attachment Type	Description
---------------------	--------------------	-----------------	-------------

Section II - Specific Air Contaminant Source Information

AQD EU ID: FUG001

AQD EU description:

Company EU ID: FUG1

Company EU Description: process fugitives

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Modification

When will you begin to modify the air contaminant source?

07/20/2015

- **Emission Unit Type Specific Information**

Emission Unit Type : Fugitive

Type of Fugitive Emission : Fugitive Leaks at O&G

Equipment and Service Type	Number of Each Equipment Type	Leak Rate (ppm)	Percent VOC
Connector; Gas	50	10,000.00	46.300
Flange; Gas	250	10,000.00	46.300
Open Ended Line; Gas	5	10,000.00	46.300
Other; Gas	10	10,000.00	46.300
Valve; Gas	20	10,000.00	46.300
Connector; Light Oil	50	10,000.00	73.200
Flange; Light Oil	250	10,000.00	73.200
Open Ended Line; Light Oil	5	10,000.00	73.200
Other; Light Oil	10	10,000.00	73.200
Valve; Light Oil	10	10,000.00	73.200
Flange; Water/Light Oil	250	10,000.00	73.200
Other; Water/Light Oil	10	10,000.00	73.200
Valve; Water/Light Oil	10	10,000.00	73.200

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

Hours/day :

Hours/year :

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

Basis for Determination Options:

- *Manufacturer Data*
- *Test results for this source*

- Similar source test results
- GRICalc
- Tanks Program
- AP-42
- Other. If this is selected, attach a document with a description of the method used.

Criteria Pollutants :

Pollutant	Pre- Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determinatio n*
		Potential to Emit (PTE)*	Units*			
Particulate emissions (PE/PM) (formerly particulate matter, PM)	0	0		0	0	
PM # 10 microns in diameter (PE/PM10)	0	0		0	0	
PM # 2.5 microns in diameter (PE/PM2.5)	0	0		0	0	
Sulfur dioxide (SO2)	0	0		0	0	
Nitrogen oxides (NOx)	0	0		0	0	
Carbon monoxide (CO)	0	0		0	0	
Volatile organic compounds (VOC)	3	0		0	0	AP-42
Lead (Pb)	0	0		0	0	
Total Hazardous Air Pollutants (HAPs)	0.1	0		0	0	AP-42
Fluoride (F)	0	0		0	0	
Hydrogen Sulfide (H2S)	0	0		0	0	
Mercury (Hg)	0	0		0	0	
Total Reduced Sulfur (TRS)	0	0		0	0	
Sulfuric Acid Mist (SAM)	0	0		0	0	

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

Pollutant	Pollutant Category	Pre- Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determinati on*
			Potential to Emit (PTE)*	Units*			

Greenhouse Gases (GHGs):

Pollutant	Pollutant Category	Pre- Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determinati on*
			Potential to Emit (PTE)*	Units*			

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected. Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- **Best Available Control Technology (BACT)**

Was a BACT Analysis completed for this unit? No

- **Lowest Achievable Emission Rate (LAER)**

Was a LAER Analysis completed for this unit? No

- **Federal and State Rule Applicability**

New Source Performance Standards (NSPS)

Not affected

New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)

Not affected

National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

Prevention of Significant Deterioration (PSD)

Not Affected

These rules are found under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review

Not Affected

These rules are found under WAQSR Chapter 6, Section 13.

- **Emission Unit Attachments**

Required Attachment	Public Document Id	Attachment Type	Description
---------------------	--------------------	-----------------	-------------

Section II - Specific Air Contaminant Source Information

AQD EU ID: HET001

AQD EU description:

Company EU ID: HET1

Company EU Description: tank heater

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Modification

When will you begin to modify the air contaminant source?

07/20/2015

- **Emission Unit Type Specific Information**

Emission Unit Type : Heater/Chiller

Fuel Sulfur Content : 0.00

Units : ppm

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

Hours/day : 24

Hours/year : 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

Basis for Determination Options:

- *Manufacturer Data*
- *Test results for this source*
- *Similar source test results*
- *GRICalc*
- *Tanks Program*
- *AP-42*
- *Other. If this is selected, attach a document with a description of the method used.*

Criteria Pollutants :

Pollutant	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
		Potential to Emit (PTE)*	Units*			
Particulate emissions (PE/PM) (formerly particulate matter, PM)	0	0		0	0	
PM # 10 microns in diameter (PE/PM10)	0	0		0	0	
PM # 2.5 microns in diameter (PE/PM2.5)	0	0		0	0	
Sulfur dioxide (SO2)	0	0		0	0	
Nitrogen oxides (NOx)	0	0		0.075	0.33	AP-42

Carbon monoxide (CO)	0	0		0.063	0.28	AP-42
Volatile organic compounds (VOC)	0	0		0	0	
Lead (Pb)	0	0		0	0	
Total Hazardous Air Pollutants (HAPs)	0	0		0	0	
Fluoride (F)	0	0		0	0	
Hydrogen Sulfide (H ₂ S)	0	0		0	0	
Mercury (Hg)	0	0		0	0	
Total Reduced Sulfur (TRS)	0	0		0	0	
Sulfuric Acid Mist (SAM)	0	0		0	0	

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

Greenhouse Gases (GHGs):

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- Best Available Control Technology (BACT)

Was a BACT Analysis completed for this unit? No

- Lowest Achievable Emission Rate (LAER)

Was a LAER Analysis completed for this unit? No

- Federal and State Rule Applicability

New Source Performance Standards (NSPS)

New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)

National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)

National Emission Standards for Hazardous Air Pollutants

Not affected

(NESHAP Part 63) standards are listed under 40 CFR 63.

Prevention of Significant Deterioration (PSD)

These rules are found under WAQSR Chapter 6, Section 4.

Not Affected

Non-Attainment New Source Review

These rules are found under WAQSR Chapter 6, Section 13.

Not Affected

- **Emission Unit Attachments**

Required Attachment	Public Document Id	Attachment Type	Description
---------------------	--------------------	-----------------	-------------

Section II - Specific Air Contaminant Source Information

AQD EU ID: HET002

AQD EU description:

Company EU ID: HET2

Company EU Description: tank heater

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Modification

When will you begin to modify the air contaminant source?

07/20/2015

- **Emission Unit Type Specific Information**

Emission Unit Type : Heater/Chiller

Fuel Sulfur Content : 0.00

Units : ppm

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

Hours/day : 24

Hours/year : 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

Basis for Determination Options:

- *Manufacturer Data*
- *Test results for this source*
- *Similar source test results*
- *GRICalc*
- *Tanks Program*
- *AP-42*
- *Other. If this is selected, attach a document with a description of the method used.*

Criteria Pollutants :

Pollutant	Pre- Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determinatio n*
		Potential to Emit (PTE)*	Units*			
Particulate emissions (PE/PM) (formerly particulate matter, PM)	0	0		0	0	
PM # 10 microns in diameter (PE/PM10)	0	0		0	0	
PM # 2.5 microns in diameter (PE/PM2.5)	0	0		0	0	
Sulfur dioxide (SO2)	0	0		0	0	
Nitrogen oxides (NOx)	0	0		0.075	0.33	AP-42

Carbon monoxide (CO)	0	0		0.063	0.28	AP-42
Volatile organic compounds (VOC)	0	0		0	0	
Lead (Pb)	0	0		0	0	
Total Hazardous Air Pollutants (HAPs)	0	0		0	0	
Fluoride (F)	0	0		0	0	
Hydrogen Sulfide (H ₂ S)	0	0		0	0	
Mercury (Hg)	0	0		0	0	
Total Reduced Sulfur (TRS)	0	0		0	0	
Sulfuric Acid Mist (SAM)	0	0		0	0	

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

Greenhouse Gases (GHGs):

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- **Best Available Control Technology (BACT)**

Was a BACT Analysis completed for this unit? No

- **Lowest Achievable Emission Rate (LAER)**

Was a LAER Analysis completed for this unit? No

- **Federal and State Rule Applicability**

New Source Performance Standards (NSPS)

New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)

National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)

National Emission Standards for Hazardous Air Pollutants

Not affected

(NESHAP Part 63) standards are listed under 40 CFR 63.

Prevention of Significant Deterioration (PSD)

These rules are found under WAQSR Chapter 6, Section 4.

Not Affected

Non-Attainment New Source Review

These rules are found under WAQSR Chapter 6, Section 13.

Not Affected

- **Emission Unit Attachments**

Required Attachment	Public Document Id	Attachment Type	Description
---------------------	--------------------	-----------------	-------------

Section II - Specific Air Contaminant Source Information

AQD EU ID: HET003

AQD EU description:

Company EU ID: HET3

Company EU Description: tank heater

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Modification

When will you begin to modify the air contaminant source?

07/20/2015

- **Emission Unit Type Specific Information**

Emission Unit Type : Heater/Chiller

Fuel Sulfur Content : 0.00

Units : ppm

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

Hours/day : 24

Hours/year : 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

Basis for Determination Options:

- *Manufacturer Data*
- *Test results for this source*
- *Similar source test results*
- *GRICalc*
- *Tanks Program*
- *AP-42*
- *Other. If this is selected, attach a document with a description of the method used.*

Criteria Pollutants :

Pollutant	Pre- Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determinatio n*
		Potential to Emit (PTE)*	Units*			
Particulate emissions (PE/PM) (formerly particulate matter, PM)	0	0		0	0	
PM # 10 microns in diameter (PE/PM10)	0	0		0	0	
PM # 2.5 microns in diameter (PE/PM2.5)	0	0		0	0	
Sulfur dioxide (SO2)	0	0		0	0	
Nitrogen oxides (NOx)	0	0		0.075	0.33	AP-42

Carbon monoxide (CO)	0	0		0.063	0.28	AP-42
Volatile organic compounds (VOC)	0	0		0	0	
Lead (Pb)	0	0		0	0	
Total Hazardous Air Pollutants (HAPs)	0	0		0	0	
Fluoride (F)	0	0		0	0	
Hydrogen Sulfide (H ₂ S)	0	0		0	0	
Mercury (Hg)	0	0		0	0	
Total Reduced Sulfur (TRS)	0	0		0	0	
Sulfuric Acid Mist (SAM)	0	0		0	0	

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

Greenhouse Gases (GHGs):

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- Best Available Control Technology (BACT)

Was a BACT Analysis completed for this unit? No

- Lowest Achievable Emission Rate (LAER)

Was a LAER Analysis completed for this unit? No

- Federal and State Rule Applicability

New Source Performance Standards (NSPS)

New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)

National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)

National Emission Standards for Hazardous Air Pollutants

Not affected

(NESHAP Part 63) standards are listed under 40 CFR 63.

Prevention of Significant Deterioration (PSD)

These rules are found under WAQSR Chapter 6, Section 4.

Not Affected

Non-Attainment New Source Review

These rules are found under WAQSR Chapter 6, Section 13.

Not Affected

- **Emission Unit Attachments**

Required Attachment	Public Document Id	Attachment Type	Description
---------------------	--------------------	-----------------	-------------

Section II - Specific Air Contaminant Source Information

AQD EU ID: HET004

AQD EU description:

Company EU ID: HET4

Company EU Description: line heater

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Modification

When will you begin to modify the air contaminant source?

07/20/2015

- **Emission Unit Type Specific Information**

Emission Unit Type : Heater/Chiller

Fuel Sulfur Content : 0.00

Units : ppm

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

Hours/day : 24

Hours/year : 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

Basis for Determination Options:

- *Manufacturer Data*
- *Test results for this source*
- *Similar source test results*
- *GRICalc*
- *Tanks Program*
- *AP-42*
- *Other. If this is selected, attach a document with a description of the method used.*

Criteria Pollutants :

Pollutant	Pre- Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determinatio n*
		Potential to Emit (PTE)*	Units*			
Particulate emissions (PE/PM) (formerly particulate matter, PM)	0	0		0	0	
PM # 10 microns in diameter (PE/PM10)	0	0		0	0	
PM # 2.5 microns in diameter (PE/PM2.5)	0	0		0	0	
Sulfur dioxide (SO2)	0	0		0	0	
Nitrogen oxides (NOx)	0	0		0.038	0.17	AP-42

Carbon monoxide (CO)	0	0		0.032	0.14	AP-42
Volatile organic compounds (VOC)	0	0		0	0	
Lead (Pb)	0	0		0	0	
Total Hazardous Air Pollutants (HAPs)	0	0		0	0	
Fluoride (F)	0	0		0	0	
Hydrogen Sulfide (H ₂ S)	0	0		0	0	
Mercury (Hg)	0	0		0	0	
Total Reduced Sulfur (TRS)	0	0		0	0	
Sulfuric Acid Mist (SAM)	0	0		0	0	

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

Greenhouse Gases (GHGs):

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- **Best Available Control Technology (BACT)**

Was a BACT Analysis completed for this unit? No

- **Lowest Achievable Emission Rate (LAER)**

Was a LAER Analysis completed for this unit? No

- **Federal and State Rule Applicability**

New Source Performance Standards (NSPS)

New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)

National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)

National Emission Standards for Hazardous Air Pollutants

Not affected

(NESHAP Part 63) standards are listed under 40 CFR 63.

Prevention of Significant Deterioration (PSD)

These rules are found under WAQSR Chapter 6, Section 4.

Not Affected

Non-Attainment New Source Review

These rules are found under WAQSR Chapter 6, Section 13.

Not Affected

- **Emission Unit Attachments**

Required Attachment	Public Document Id	Attachment Type	Description
---------------------	--------------------	-----------------	-------------

Section II - Specific Air Contaminant Source Information

AQD EU ID: HET005

AQD EU description:

Company EU ID: HET5

Company EU Description: reboiler heater

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Modification

When will you begin to modify the air contaminant source?

07/20/2015

- **Emission Unit Type Specific Information**

Emission Unit Type : Heater/Chiller

Fuel Sulfur Content : 0.00

Units : ppm

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

Hours/day : 24

Hours/year : 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

Basis for Determination Options:

- *Manufacturer Data*
- *Test results for this source*
- *Similar source test results*
- *GRICalc*
- *Tanks Program*
- *AP-42*
- *Other. If this is selected, attach a document with a description of the method used.*

Criteria Pollutants :

Pollutant	Pre- Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determinatio n*
		Potential to Emit (PTE)*	Units*			
Particulate emissions (PE/PM) (formerly particulate matter, PM)	0	0		0	0	
PM # 10 microns in diameter (PE/PM10)	0	0		0	0	
PM # 2.5 microns in diameter (PE/PM2.5)	0	0		0	0	
Sulfur dioxide (SO2)	0	0		0	0	
Nitrogen oxides (NOx)	0	0		0.09	0.4	AP-42

Carbon monoxide (CO)	0	0		0.076	0.33	AP-42
Volatile organic compounds (VOC)	0	0		0	0	
Lead (Pb)	0	0		0	0	
Total Hazardous Air Pollutants (HAPs)	0	0		0	0	
Fluoride (F)	0	0		0	0	
Hydrogen Sulfide (H ₂ S)	0	0		0	0	
Mercury (Hg)	0	0		0	0	
Total Reduced Sulfur (TRS)	0	0		0	0	
Sulfuric Acid Mist (SAM)	0	0		0	0	

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

Greenhouse Gases (GHGs):

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- Best Available Control Technology (BACT)

Was a BACT Analysis completed for this unit? No

- Lowest Achievable Emission Rate (LAER)

Was a LAER Analysis completed for this unit? No

- Federal and State Rule Applicability

New Source Performance Standards (NSPS)

New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)

National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)

National Emission Standards for Hazardous Air Pollutants

Not affected

(NESHAP Part 63) standards are listed under 40 CFR 63.

Prevention of Significant Deterioration (PSD)

These rules are found under WAQSR Chapter 6, Section 4.

Not Affected

Non-Attainment New Source Review

These rules are found under WAQSR Chapter 6, Section 13.

Not Affected

- **Emission Unit Attachments**

Required Attachment	Public Document Id	Attachment Type	Description
---------------------	--------------------	-----------------	-------------

Section II - Specific Air Contaminant Source Information

AQD EU ID: LUD001

AQD EU description:

Company EU ID: TLO1

Company EU Description: truck loading from condensate tanks

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Modification

When will you begin to modify the air contaminant source?

07/20/2015

- **Emission Unit Type Specific Information**

Emission Unit Type : Loading/Unloading/Dump

Maximum Hourly Throughput 3

Units : barrels/hr

Detailed Description of Loading/Unloading/Dump Source : condensate tank truck loadout (60 bbls/day)

**Provide detailed calculations documenting the potential emissions and emission factors used to calculate emissions from this source.*

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

Hours/day : 24

Hours/year : 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

Basis for Determination Options:

- *Manufacturer Data*
- *Test results for this source*
- *Similar source test results*
- *GRICalc*
- *Tanks Program*
- *AP-42*
- *Other. If this is selected, attach a document with a description of the method used.*

Criteria Pollutants :

Pollutant	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
		Potential to Emit (PTE)*	Units*			
Particulate emissions (PE/PM) (formerly particulate matter, PM)	0	0		0	0	

PM # 10 microns in diameter (PE/PM10)	0	0		0	0	
PM # 2.5 microns in diameter (PE/PM2.5)	0	0		0	0	
Sulfur dioxide (SO2)	0	0		0	0	
Nitrogen oxides (NOx)	0	0		0	0	
Carbon monoxide (CO)	0	0		0	0	
Volatile organic compounds (VOC)	1.3	0		0	0	AP-42
Lead (Pb)	0	0		0	0	
Total Hazardous Air Pollutants (HAPs)	0.1	0		0	0	AP-42
Fluoride (F)	0	0		0	0	
Hydrogen Sulfide (H2S)	0	0		0	0	
Mercury (Hg)	0	0		0	0	
Total Reduced Sulfur (TRS)	0	0		0	0	
Sulfuric Acid Mist (SAM)	0	0		0	0	

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

Greenhouse Gases (GHGs):

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- Best Available Control Technology (BACT)

Was a BACT Analysis completed for this unit? No

- Lowest Achievable Emission Rate (LAER)

Was a LAER Analysis completed for this unit? No

- Federal and State Rule Applicability

New Source Performance Standards (NSPS)

New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)

National Emissions Standards for Hazardous Air Pollutants

Not affected

(NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

Prevention of Significant Deterioration (PSD)

Not Affected

These rules are found under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review

Not Affected

These rules are found under WAQSR Chapter 6, Section 13.

- **Emission Unit Attachments**

Required Attachment	Public Document Id	Attachment Type	Description
---------------------	--------------------	-----------------	-------------

Section II - Specific Air Contaminant Source Information

AQD EU ID: TNK001

AQD EU description:

Company EU ID: T1

Company EU Description: 400-bbl condensate
storage tank

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Modification

When will you begin to modify the air contaminant source?

07/20/2015

- **Emission Unit Type Specific Information**

Emission Unit Type : Storage Tank/Silo

Maximum Hourly Throughput 2.5000

Units : barrels/hr

Is Tank Heated : Yes

Operating Pressure (psig) : 0.01

Vapor Pressure of Material 6.00
Stored (psig) :

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

Hours/day : 24

Hours/year : 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

Basis for Determination Options:

- *Manufacturer Data*
- *Test results for this source*
- *Similar source test results*
- *GRICalc*
- *Tanks Program*
- *AP-42*
- *Other. If this is selected, attach a document with a description of the method used.*

Criteria Pollutants :

Pollutant	Pre- Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determinatio n*
		Potential to Emit (PTE)*	Units*			
Particulate emissions (PE/PM) (formerly particulate matter, PM)	0	0		0	0	
PM # 10 microns in	0	0		0	0	

diameter (PE/PM10)						
PM # 2.5 microns in diameter (PE/PM2.5)	0	0		0	0	
Sulfur dioxide (SO2)	0	0		0	0	
Nitrogen oxides (NOx)	0	0		0	0	
Carbon monoxide (CO)	0	0		0	0	
Volatile organic compounds (VOC)	36.8	0		0.17	0.7	Tanks Program
Lead (Pb)	0	0		0	0	
Total Hazardous Air Pollutants (HAPs)	1.65	0		0.008	0.03	Tanks Program
Fluoride (F)	0	0		0	0	
Hydrogen Sulfide (H2S)	0	0		0	0	
Mercury (Hg)	0	0		0	0	
Total Reduced Sulfur (TRS)	0	0		0	0	
Sulfuric Acid Mist (SAM)	0	0		0	0	

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

Pollutant	Pollutant Category	Pre- Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determinati on*
			Potential to Emit (PTE)*	Units*			

Greenhouse Gases (GHGs):

Pollutant	Pollutant Category	Pre- Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determinati on*
			Potential to Emit (PTE)*	Units*			

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- **Best Available Control Technology (BACT)**

Was a BACT Analysis completed for this unit? No

- **Lowest Achievable Emission Rate (LAER)**

Was a LAER Analysis completed for this unit? No

- **Federal and State Rule Applicability**

New Source Performance Standards (NSPS)

New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

Subject to subpart

NSPS Subpart
0000 - Crude Oil and Natural Gas Production, Transmission and Distribution

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)

Not affected

National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

Prevention of Significant Deterioration (PSD)

Not Affected

These rules are found under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review

Not Affected

These rules are found under WAQSR Chapter 6, Section 13.

- **Emission Unit Attachments**

Required Attachment	Public Document Id	Attachment Type	Description
---------------------	--------------------	-----------------	-------------

Section II - Specific Air Contaminant Source Information

AQD EU ID: TNK002

AQD EU description:

Company EU ID: T2

Company EU Description: 400-bbl condensate
storage tank

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Modification

When will you begin to modify the air contaminant source?

07/20/2015

- **Emission Unit Type Specific Information**

Emission Unit Type : Storage Tank/Silo

Maximum Hourly Throughput 2.5000

Units : barrels/hr

Is Tank Heated : Yes

Operating Pressure (psig) : 0.01

Vapor Pressure of Material 6.00
Stored (psig) :

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

Hours/day : 24

Hours/year : 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

Basis for Determination Options:

- *Manufacturer Data*
- *Test results for this source*
- *Similar source test results*
- *GRICalc*
- *Tanks Program*
- *AP-42*
- *Other. If this is selected, attach a document with a description of the method used.*

Criteria Pollutants :

Pollutant	Pre- Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determinatio n*
		Potential to Emit (PTE)*	Units*			
Particulate emissions (PE/PM) (formerly particulate matter, PM)	0	0		0	0	
PM # 10 microns in	0	0		0	0	

diameter (PE/PM10)						
PM # 2.5 microns in diameter (PE/PM2.5)	0	0		0	0	
Sulfur dioxide (SO2)	0	0		0	0	
Nitrogen oxides (NOx)	0	0		0	0	
Carbon monoxide (CO)	0	0		0	0	
Volatile organic compounds (VOC)	36.8	0		0.17	0.7	Tanks Program
Lead (Pb)	0	0		0	0	
Total Hazardous Air Pollutants (HAPs)	1.65	0		0.008	0.03	Tanks Program
Fluoride (F)	0	0		0	0	
Hydrogen Sulfide (H2S)	0	0		0	0	
Mercury (Hg)	0	0		0	0	
Total Reduced Sulfur (TRS)	0	0		0	0	
Sulfuric Acid Mist (SAM)	0	0		0	0	

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

Greenhouse Gases (GHGs):

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- Best Available Control Technology (BACT)

Was a BACT Analysis completed for this unit? No

- Lowest Achievable Emission Rate (LAER)

Was a LAER Analysis completed for this unit? No

- Federal and State Rule Applicability

New Source Performance Standards (NSPS)

New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

Subject to subpart

NSPS Subpart
0000 - Crude Oil and Natural Gas Production, Transmission and Distribution

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)

Not affected

National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

Prevention of Significant Deterioration (PSD)

Not Affected

These rules are found under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review

Not Affected

These rules are found under WAQSR Chapter 6, Section 13.

- **Emission Unit Attachments**

Required Attachment	Public Document Id	Attachment Type	Description
---------------------	--------------------	-----------------	-------------

Section II - Specific Air Contaminant Source Information

AQD EU ID: TNK003

AQD EU description:

Company EU ID: T3

Company EU Description: 400-bbl water
storage tank

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Modification

When will you begin to modify the air contaminant source?

07/20/2015

- **Emission Unit Type Specific Information**

Emission Unit Type : Storage Tank/Silo

Maximum Hourly Throughput 2.5000

Units : barrels/hr

Is Tank Heated : Yes

Operating Pressure (psig) : 0.01

Vapor Pressure of Material 0.01
Stored (psig) :

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

Hours/day : 24

Hours/year : 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

Basis for Determination Options:

- *Manufacturer Data*
- *Test results for this source*
- *Similar source test results*
- *GRICalc*
- *Tanks Program*
- *AP-42*
- *Other. If this is selected, attach a document with a description of the method used.*

Criteria Pollutants :

Pollutant	Pre- Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determinatio n*
		Potential to Emit (PTE)*	Units*			
Particulate emissions (PE/PM) (formerly particulate matter, PM)	0	0		0	0	
PM # 10 microns in	0	0		0	0	

diameter (PE/PM10)						
PM # 2.5 microns in diameter (PE/PM2.5)	0	0		0	0	
Sulfur dioxide (SO2)	0	0		0	0	
Nitrogen oxides (NOx)	0	0		0	0	
Carbon monoxide (CO)	0	0		0	0	
Volatile organic compounds (VOC)	0	0		0	0	
Lead (Pb)	0	0		0	0	
Total Hazardous Air Pollutants (HAPs)	0	0		0	0	
Fluoride (F)	0	0		0	0	
Hydrogen Sulfide (H2S)	0	0		0	0	
Mercury (Hg)	0	0		0	0	
Total Reduced Sulfur (TRS)	0	0		0	0	
Sulfuric Acid Mist (SAM)	0	0		0	0	

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

Greenhouse Gases (GHGs):

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected. Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- Best Available Control Technology (BACT)

Was a BACT Analysis completed for this unit? No

- Lowest Achievable Emission Rate (LAER)

Was a LAER Analysis completed for this unit? No

- Federal and State Rule Applicability

New Source Performance Standards (NSPS)
New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

Subject to subpart

NSPS Subpart
0000 - Crude Oil and Natural Gas Production, Transmission and Distribution

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)

Not affected

National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

Prevention of Significant Deterioration (PSD)

Not Affected

These rules are found under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review

Not Affected

These rules are found under WAQSR Chapter 6, Section 13.

- **Emission Unit Attachments**

Required Attachment	Public Document Id	Attachment Type	Description
---------------------	--------------------	-----------------	-------------

Section II - Specific Air Contaminant Source Information

AQD EU ID: TNK004

AQD EU description:

Company EU ID: T4

Company EU Description: 6000 gallon
methanol storage
tank

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Modification

When will you begin to modify the air contaminant source?

07/20/2015

- **Emission Unit Type Specific Information**

Emission Unit Type : Storage Tank/Silo

Maximum Hourly Throughput 6.2000

Units : gallons/hr

Is Tank Heated : No

Operating Pressure (psig) : 0.01

Vapor Pressure of Material 1.89
Stored (psig) :

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

Hours/day : 24

Hours/year : 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

Basis for Determination Options:

- *Manufacturer Data*
- *Test results for this source*
- *Similar source test results*
- *GRICalc*
- *Tanks Program*
- *AP-42*
- *Other. If this is selected, attach a document with a description of the method used.*

Criteria Pollutants :

Pollutant	Pre- Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determinatio n*
		Potential to Emit (PTE)*	Units*			
Particulate emissions (PE/PM) (formerly particulate matter, PM)	0	0		0	0	

PM # 10 microns in diameter (PE/PM10)	0	0		0	0	
PM # 2.5 microns in diameter (PE/PM2.5)	0	0		0	0	
Sulfur dioxide (SO2)	0	0		0	0	
Nitrogen oxides (NOx)	0	0		0	0	
Carbon monoxide (CO)	0	0		0	0	
Volatile organic compounds (VOC)	0.05	0		0	0	Tanks Program
Lead (Pb)	0	0		0	0	
Total Hazardous Air Pollutants (HAPs)	0	0		0	0	
Fluoride (F)	0	0		0	0	
Hydrogen Sulfide (H2S)	0	0		0	0	
Mercury (Hg)	0	0		0	0	
Total Reduced Sulfur (TRS)	0	0		0	0	
Sulfuric Acid Mist (SAM)	0	0		0	0	

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

Greenhouse Gases (GHGs):

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- Best Available Control Technology (BACT)

Was a BACT Analysis completed for this unit? No

- Lowest Achievable Emission Rate (LAER)

Was a LAER Analysis completed for this unit? No

- Federal and State Rule Applicability

New Source Performance Standards (NSPS)

New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)

National Emissions Standards for Hazardous Air Pollutants

Not affected

(NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)
National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

Not affected

Prevention of Significant Deterioration (PSD)
These rules are found under WAQSR Chapter 6, Section 4.

Not Affected

Non-Attainment New Source Review
These rules are found under WAQSR Chapter 6, Section 13.

Not Affected

- **Emission Unit Attachments**

Required Attachment	Public Document Id	Attachment Type	Description
---------------------	--------------------	-----------------	-------------

Section II - Specific Air Contaminant Source Information

AQD EU ID: TNK005

AQD EU description:

Company EU ID: T5

Company EU Description: 6000 gallon
methanol storage
tank

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Modification

When will you begin to modify the air contaminant source?

07/20/2015

- **Emission Unit Type Specific Information**

Emission Unit Type : Storage Tank/Silo

Maximum Hourly Throughput 6.2000

Units : gallons/hr

Is Tank Heated : No

Operating Pressure (psig) : 0.01

Vapor Pressure of Material 1.89
Stored (psig) :

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

Hours/day : 24

Hours/year : 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

Basis for Determination Options:

- *Manufacturer Data*
- *Test results for this source*
- *Similar source test results*
- *GRICalc*
- *Tanks Program*
- *AP-42*
- *Other. If this is selected, attach a document with a description of the method used.*

Criteria Pollutants :

Pollutant	Pre- Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determinatio n*
		Potential to Emit (PTE)*	Units*			
Particulate emissions (PE/PM) (formerly particulate matter, PM)	0	0		0	0	

PM # 10 microns in diameter (PE/PM10)	0	0		0	0	
PM # 2.5 microns in diameter (PE/PM2.5)	0	0		0	0	
Sulfur dioxide (SO2)	0	0		0	0	
Nitrogen oxides (NOx)	0	0		0	0	
Carbon monoxide (CO)	0	0		0	0	
Volatile organic compounds (VOC)	0.05	0		0	0	Tanks Program
Lead (Pb)	0	0		0	0	
Total Hazardous Air Pollutants (HAPs)	0	0		0	0	
Fluoride (F)	0	0		0	0	
Hydrogen Sulfide (H2S)	0	0		0	0	
Mercury (Hg)	0	0		0	0	
Total Reduced Sulfur (TRS)	0	0		0	0	
Sulfuric Acid Mist (SAM)	0	0		0	0	

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

Greenhouse Gases (GHGs):

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- Best Available Control Technology (BACT)

Was a BACT Analysis completed for this unit? No

- Lowest Achievable Emission Rate (LAER)

Was a LAER Analysis completed for this unit? No

- Federal and State Rule Applicability

New Source Performance Standards (NSPS)

New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)

National Emissions Standards for Hazardous Air Pollutants

Not affected

(NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

Prevention of Significant Deterioration (PSD)

Not Affected

These rules are found under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review

Not Affected

These rules are found under WAQSR Chapter 6, Section 13.

- **Emission Unit Attachments**

Required Attachment	Public Document Id	Attachment Type	Description
---------------------	--------------------	-----------------	-------------

Section II - Specific Air Contaminant Source Information

AQD EU ID: TNK006

AQD EU description:

Company EU ID: T6

Company EU Description: 500-bbl water storage tank

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Modification

When will you begin to modify the air contaminant source?

07/20/2015

- **Emission Unit Type Specific Information**

Emission Unit Type : Storage Tank/Silo

Maximum Hourly Throughput 166.6700

Units : barrels/hr

Is Tank Heated : No

Operating Pressure (psig) : 0.01

Vapor Pressure of Material 0.01
Stored (psig) :

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

Hours/day : 24

Hours/year : 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

Basis for Determination Options:

- *Manufacturer Data*
- *Test results for this source*
- *Similar source test results*
- *GRICalc*
- *Tanks Program*
- *AP-42*
- *Other. If this is selected, attach a document with a description of the method used.*

Criteria Pollutants :

Pollutant	Pre- Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determinatio n*
		Potential to Emit (PTE)*	Units*			
Particulate emissions (PE/PM) (formerly particulate matter, PM)	0	0		0	0	
PM # 10 microns in	0	0		0	0	

diameter (PE/PM10)						
PM # 2.5 microns in diameter (PE/PM2.5)	0	0		0	0	
Sulfur dioxide (SO2)	0	0		0	0	
Nitrogen oxides (NOx)	0	0		0	0	
Carbon monoxide (CO)	0	0		0	0	
Volatile organic compounds (VOC)	0.62	0		0	0	AP-42
Lead (Pb)	0	0		0	0	
Total Hazardous Air Pollutants (HAPs)	0.02	0		0	0	AP-42
Fluoride (F)	0	0		0	0	
Hydrogen Sulfide (H2S)	0	0		0	0	
Mercury (Hg)	0	0		0	0	
Total Reduced Sulfur (TRS)	0	0		0	0	
Sulfuric Acid Mist (SAM)	0	0		0	0	

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

Greenhouse Gases (GHGs):

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- Best Available Control Technology (BACT)

Was a BACT Analysis completed for this unit? No

- Lowest Achievable Emission Rate (LAER)

Was a LAER Analysis completed for this unit? No

- Federal and State Rule Applicability

New Source Performance Standards (NSPS)
New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

Subject to subpart

NSPS Subpart
0000 - Crude Oil and Natural Gas Production, Transmission and Distribution

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)

Not affected

National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

Prevention of Significant Deterioration (PSD)

Not Affected

These rules are found under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review

Not Affected

These rules are found under WAQSR Chapter 6, Section 13.

- **Emission Unit Attachments**

Required Attachment	Public Document Id	Attachment Type	Description
---------------------	--------------------	-----------------	-------------

Section II - Specific Air Contaminant Source Information

AQD EU ID: TNK007

AQD EU description:

Company EU ID: T7

Company EU Description: 500-bbl water
storage tank

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Modification

When will you begin to modify the air contaminant source?

07/20/2015

- **Emission Unit Type Specific Information**

Emission Unit Type : Storage Tank/Silo

Maximum Hourly Throughput 166.6700

Units : barrels/hr

Is Tank Heated : No

Operating Pressure (psig) : 0.01

Vapor Pressure of Material 0.01
Stored (psig) :

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

Hours/day : 24

Hours/year : 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

Basis for Determination Options:

- *Manufacturer Data*
- *Test results for this source*
- *Similar source test results*
- *GRICalc*
- *Tanks Program*
- *AP-42*
- *Other. If this is selected, attach a document with a description of the method used.*

Criteria Pollutants :

Pollutant	Pre- Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determinatio n*
		Potential to Emit (PTE)*	Units*			
Particulate emissions (PE/PM) (formerly particulate matter, PM)	0	0		0	0	
PM # 10 microns in	0	0		0	0	

diameter (PE/PM10)						
PM # 2.5 microns in diameter (PE/PM2.5)	0	0		0	0	
Sulfur dioxide (SO2)	0	0		0	0	
Nitrogen oxides (NOx)	0	0		0	0	
Carbon monoxide (CO)	0	0		0	0	
Volatile organic compounds (VOC)	0.62	0		0	0	AP-42
Lead (Pb)	0	0		0	0	
Total Hazardous Air Pollutants (HAPs)	0.02	0		0	0	AP-42
Fluoride (F)	0	0		0	0	
Hydrogen Sulfide (H2S)	0	0		0	0	
Mercury (Hg)	0	0		0	0	
Total Reduced Sulfur (TRS)	0	0		0	0	
Sulfuric Acid Mist (SAM)	0	0		0	0	

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

Greenhouse Gases (GHGs):

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- Best Available Control Technology (BACT)

Was a BACT Analysis completed for this unit? No

- Lowest Achievable Emission Rate (LAER)

Was a LAER Analysis completed for this unit? No

- Federal and State Rule Applicability

New Source Performance Standards (NSPS)
New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

Subject to subpart

NSPS Subpart
0000 - Crude Oil and Natural Gas Production, Transmission and Distribution

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)

Not affected

National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

Prevention of Significant Deterioration (PSD)

Not Affected

These rules are found under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review

Not Affected

These rules are found under WAQSR Chapter 6, Section 13.

- **Emission Unit Attachments**

Required Attachment	Public Document Id	Attachment Type	Description
---------------------	--------------------	-----------------	-------------

Section II - Specific Air Contaminant Source Information

AQD EU ID: TNK008

AQD EU description:

Company EU ID: T8

Company EU Description: 500-bbl water
storage tank

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Modification

When will you begin to modify the air contaminant source?

07/20/2015

- **Emission Unit Type Specific Information**

Emission Unit Type : Storage Tank/Silo

Maximum Hourly Throughput 166.6700

Units : barrels/hr

Is Tank Heated : No

Operating Pressure (psig) : 0.01

Vapor Pressure of Material 0.01
Stored (psig) :

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

Hours/day : 24

Hours/year : 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

Basis for Determination Options:

- *Manufacturer Data*
- *Test results for this source*
- *Similar source test results*
- *GRICalc*
- *Tanks Program*
- *AP-42*
- *Other. If this is selected, attach a document with a description of the method used.*

Criteria Pollutants :

Pollutant	Pre- Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determinatio n*
		Potential to Emit (PTE)*	Units*			
Particulate emissions (PE/PM) (formerly particulate matter, PM)	0	0		0	0	
PM # 10 microns in	0	0		0	0	

diameter (PE/PM10)						
PM # 2.5 microns in diameter (PE/PM2.5)	0	0		0	0	
Sulfur dioxide (SO2)	0	0		0	0	
Nitrogen oxides (NOx)	0	0		0	0	
Carbon monoxide (CO)	0	0		0	0	
Volatile organic compounds (VOC)	0.62	0		0	0	AP-42
Lead (Pb)	0	0		0	0	
Total Hazardous Air Pollutants (HAPs)	0.02	0		0	0	AP-42
Fluoride (F)	0	0		0	0	
Hydrogen Sulfide (H2S)	0	0		0	0	
Mercury (Hg)	0	0		0	0	
Total Reduced Sulfur (TRS)	0	0		0	0	
Sulfuric Acid Mist (SAM)	0	0		0	0	

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

Greenhouse Gases (GHGs):

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- Best Available Control Technology (BACT)

Was a BACT Analysis completed for this unit? No

- Lowest Achievable Emission Rate (LAER)

Was a LAER Analysis completed for this unit? No

- Federal and State Rule Applicability

New Source Performance Standards (NSPS)
New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

Subject to subpart

NSPS Subpart
0000 - Crude Oil and Natural Gas Production, Transmission and Distribution

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)

Not affected

National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

Prevention of Significant Deterioration (PSD)

Not Affected

These rules are found under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review

Not Affected

These rules are found under WAQSR Chapter 6, Section 13.

- **Emission Unit Attachments**

Required Attachment	Public Document Id	Attachment Type	Description
---------------------	--------------------	-----------------	-------------

Section II - Specific Air Contaminant Source Information

AQD EU ID: TNK009

AQD EU description:

Company EU ID: T9

Company EU Description: 500-bbl water
storage tank

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Modification

When will you begin to modify the air contaminant source?

07/20/2015

- **Emission Unit Type Specific Information**

Emission Unit Type : Storage Tank/Silo

Maximum Hourly Throughput 166.6700

Units : barrels/hr

Is Tank Heated : No

Operating Pressure (psig) : 0.01

Vapor Pressure of Material 0.01
Stored (psig) :

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

Hours/day : 24

Hours/year : 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

Basis for Determination Options:

- *Manufacturer Data*
- *Test results for this source*
- *Similar source test results*
- *GRICalc*
- *Tanks Program*
- *AP-42*
- *Other. If this is selected, attach a document with a description of the method used.*

Criteria Pollutants :

Pollutant	Pre- Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determinatio n*
		Potential to Emit (PTE)*	Units*			
Particulate emissions (PE/PM) (formerly particulate matter, PM)	0	0		0	0	
PM # 10 microns in	0	0		0	0	

diameter (PE/PM10)						
PM # 2.5 microns in diameter (PE/PM2.5)	0	0		0	0	
Sulfur dioxide (SO2)	0	0		0	0	
Nitrogen oxides (NOx)	0	0		0	0	
Carbon monoxide (CO)	0	0		0	0	
Volatile organic compounds (VOC)	0.62	0		0	0	AP-42
Lead (Pb)	0	0		0	0	
Total Hazardous Air Pollutants (HAPs)	0.02	0		0	0	AP-42
Fluoride (F)	0	0		0	0	
Hydrogen Sulfide (H2S)	0	0		0	0	
Mercury (Hg)	0	0		0	0	
Total Reduced Sulfur (TRS)	0	0		0	0	
Sulfuric Acid Mist (SAM)	0	0		0	0	

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

Greenhouse Gases (GHGs):

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- Best Available Control Technology (BACT)

Was a BACT Analysis completed for this unit? No

- Lowest Achievable Emission Rate (LAER)

Was a LAER Analysis completed for this unit? No

- Federal and State Rule Applicability

New Source Performance Standards (NSPS)

New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

Subject to subpart

NSPS Subpart
0000 - Crude Oil and Natural Gas Production, Transmission and Distribution

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)

Not affected

National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

Prevention of Significant Deterioration (PSD)

Not Affected

These rules are found under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review

Not Affected

These rules are found under WAQSR Chapter 6, Section 13.

- **Emission Unit Attachments**

Required Attachment	Public Document Id	Attachment Type	Description
---------------------	--------------------	-----------------	-------------

Section II - Specific Air Contaminant Source Information

AQD EU ID: TNK010

AQD EU description:

Company EU ID: T10

Company EU Description: 500-bbl water
storage tank

- **Source Installation or Modification Schedule** – Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):

Modification

When will you begin to modify the air contaminant source?

07/20/2015

- **Emission Unit Type Specific Information**

Emission Unit Type : Storage Tank/Silo

Maximum Hourly Throughput 166.6700

Units : barrels/hr

Is Tank Heated : No

Operating Pressure (psig) : 0.01

Vapor Pressure of Material 0.01
Stored (psig) :

- **Potential Operating Schedule** – Provide the operating schedule for this emissions unit

Hours/day : 24

Hours/year : 8760

- **Emissions Information** "Potential to emit" means the maximum capacity of a source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by the EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Title IV of the Act or the regulations promulgated thereunder.

Basis for Determination Options:

- *Manufacturer Data*
- *Test results for this source*
- *Similar source test results*
- *GRICalc*
- *Tanks Program*
- *AP-42*
- *Other. If this is selected, attach a document with a description of the method used.*

Criteria Pollutants :

Pollutant	Pre- Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determinatio n*
		Potential to Emit (PTE)*	Units*			
Particulate emissions (PE/PM) (formerly particulate matter, PM)	0	0		0	0	
PM # 10 microns in	0	0		0	0	

diameter (PE/PM10)						
PM # 2.5 microns in diameter (PE/PM2.5)	0	0		0	0	
Sulfur dioxide (SO2)	0	0		0	0	
Nitrogen oxides (NOx)	0	0		0	0	
Carbon monoxide (CO)	0	0		0	0	
Volatile organic compounds (VOC)	0.62	0		0	0	AP-42
Lead (Pb)	0	0		0	0	
Total Hazardous Air Pollutants (HAPs)	0.02	0		0	0	AP-42
Fluoride (F)	0	0		0	0	
Hydrogen Sulfide (H2S)	0	0		0	0	
Mercury (Hg)	0	0		0	0	
Total Reduced Sulfur (TRS)	0	0		0	0	
Sulfuric Acid Mist (SAM)	0	0		0	0	

Hazardous Air Pollutants (HAPs) and Toxic Air Contaminants:

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

Greenhouse Gases (GHGs):

Pollutant	Pollutant Category	Pre-Controlled Potential Emissions (tons/yr)	Efficiency Standards		Potential to Emit (PTE) (lbs/hr)*	Potential to Emit (PTE) (tons/yr)*	Basis for Determination*
			Potential to Emit (PTE)*	Units*			

* Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.

Note the emission factor(s) employed and document origin. Example: AP-42, Table 4.4-3 (8/97); stack test, Method 5, 4/96; mass balance based on MSDS; etc.

** AQD Calculated - See 'Help' for more information.

- Best Available Control Technology (BACT)

Was a BACT Analysis completed for this unit? No

- Lowest Achievable Emission Rate (LAER)

Was a LAER Analysis completed for this unit? No

- Federal and State Rule Applicability

New Source Performance Standards (NSPS)

New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

Subject to subpart

NSPS Subpart
0000 - Crude Oil and Natural Gas Production, Transmission and Distribution

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61)

Not affected

National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)

Not affected

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63.

Prevention of Significant Deterioration (PSD)

Not Affected

These rules are found under WAQSR Chapter 6, Section 4.

Non-Attainment New Source Review

Not Affected

These rules are found under WAQSR Chapter 6, Section 13.

- **Emission Unit Attachments**

Required Attachment	Public Document Id	Attachment Type	Description
---------------------	--------------------	-----------------	-------------

Facility Detail Report

Facility Name: Fairway Compressor Station and Water Transfer Facility

ID: F026209

- Facility Information

Facility ID: F026209

FacilityName: Fairway Compressor Station and Water Transfer Facility

Facility Description:

Company Name: EOG Resources, Inc.

Operating Status: Operating

Facility Class: Minor

CERR Class: NON

AFS:

Facility Type: Compressor Station

- Location

Physical Address	City	County	Lat/Long	PLSS	Effective Date
Section 36, 13N, 65W	Laramie County	Laramie	41.05360/- 104.60500	QSWNW-S36- T13N-R65W	08/21/2014

Location Detail For : Section 36, 13N, 65W

Latitude: 41.05360

Longitude: -104.60500

Quarter Quarter: SW

Quarter: NW

Section: 36

Township: 13N

Range: 65W

County: Laramie

State: Wyoming

District: District 1

Physical Address 1: Section 36, 13N, 65W

Physical Address 2:

City: Laramie County

Zip: 82001

Effective Date: 08/21/2014

- Notes

User Name	Date	Note
-----------	------	------

- NAICS Codes

486210 Pipeline Transportation of Natural Gas (SIC 4922)

- Contacts

Contact Type	Contact Person	Phone Number	Email	Start Date	End Date
Environmental contact	Rice, Curtis	(303) 262-9946	Curtis_Rice@eogresources.com	03/09/2015	
NSR Permitting contact	Smith, Mark	(307) 399-2365	mark_smith@eogresources.com	01/05/2015	

Contact Detail For : Rice, Curtis

Prefix: Mr.

First Name: Curtis

Middle Name:

Last Name: Rice

Suffix:

Company Title: Senior Environmental Specialist

Contact's Company Name: EOG Resources, Inc.

Address 1: 600 17th Street, Suite 1000N

Address 2:

City: Denver

Zip Code: 80202

State: Colorado

Work Phone No: (303) 262-9946

Secondary Phone No.:

Address 2:

Secondary Ext. No.:

Mobile Phone No.:

Pager No.:

Fax No:

Pager PIN No.:

Email: Curtis_Rice@eogresources.com

Email Pager Address:

Contact Detail For : Smith, Mark

Prefix: Mr.

First Name: Mark

Middle Name:

Last Name: Smith

Suffix:

Company Title: Senior Environmental
Representative

Contact's Company Name: EOG Resources, Inc.

Address 1: 3001 E. Pershing Blvd.

Address 2:

City: Cheyenne

Zip Code: 82001

State: Wyoming

Work Phone No: (307) 399-2365

Secondary Phone No.:

Address 2:

Secondary Ext. No.:

Mobile Phone No.:

Pager No.:

Fax No:

Pager PIN No.:

Email: mark_smith@eogresources.com

Email Pager Address:

- Rules & Regs

Subject to Part 60 NSPS:

Subject to 112(r) Accidental Release
Prevention:

Subject to Part 61 NESHAP:

Subject to non-attainment NSR:

Subject Part 63 NESHAP:

Subject to PSD:

Subject to Title IV Acid Rain:

- Attachments

Description	Type	Modified By	Modified Date
Permit History as of 1/21/2015	Other	Coffman, Ella	01/21/2015

- Version

Version ID	Version Start Date	Version End Date	Preserved
CURRENT	08/03/2015		
31231	07/20/2015	08/03/2015	X
30795	06/18/2015	07/20/2015	X
30476	05/27/2015	06/18/2015	X
27703	08/21/2014	05/27/2015	X

Emission Unit : BVC001

Sep 9 2015, 08:42:22

- Emission Unit Information

AQD Emissions Unit ID: BVC001

Emission Unit Type: Blow-down/Venting/Well Completion

Type of Event: Blow-down

AQD Description: compressor blowdown - routed to flare

Company Equipment ID: BVC1

Company Equipment Description: compressor blowdown - routed to flare

Operating Status: Operating

Initial Construction Commencement Date: 01/27/2015

Initial Operation Commencement Date: 01/27/2015

Most Recent
Construction/Modification
Commencement Date:

Most Recent Operation
Commencement Date:

- Permitted Emissions

Pollutant	Potential Emissions (Lbs/hour)	Potential Emissions (Tons/Year)	Allowable Emissions (Lbs/Hour)	Allowable Emissions (Tons/Year)	Comments
-----------	--------------------------------------	---------------------------------------	--------------------------------------	---------------------------------------	----------

- Processes

- Emission Process Information

Process ID: PRC027

Process Name: compressor blowdown

Company Process Description: compressor blowdown

Source Classification Code (SCC): 3-06-004-01

Control equipment(s) directly associated with this process

FLA001

Emission Unit : BVC002

Sep 9 2015, 08:42:22

- Emission Unit Information

AQD Emissions Unit ID: BVC002

Emission Unit Type: Blow-down/Venting/Well Completion

Type of Event: Pigging Activities

AQD Description: pigging - routed to flare

Company Equipment ID: BVC2

Company Equipment Description: pigging - routed to flare

Operating Status: Operating

Initial Construction Commencement Date: 01/27/2015

Initial Operation Commencement Date: 01/27/2015

Most Recent Construction/Modification Commencement Date:

Most Recent Operation Commencement Date:

- Permitted Emissions

Pollutant	Potential Emissions (Lbs/hour)	Potential Emissions (Tons/Year)	Allowable Emissions (Lbs/Hour)	Allowable Emissions (Tons/Year)	Comments
-----------	--------------------------------	---------------------------------	--------------------------------	---------------------------------	----------

- Processes

- Emission Process Information

Process ID: PROC028

Process Name: pigging events

Company Process Description: pigging events

Source Classification Code (SCC): 3-06-004-01

Control equipment(s) directly associated with this process

FLA001

Emission Unit : DHY001

Sep 9 2015, 08:42:22

- Emission Unit Information

AQD Emissions Unit ID: DHY001

Emission Unit Type: Dehydration Unit

Dehydration Type: TEG

Design Capacity (MMscf/day): 20.0

AQD Description: 20 MMCFD TEG dehydration unit w/reboiler overheads condenser, glycol flash separator, two (2) Kimray Model 21015PV glycol circulation pumps, and 0.6 MMBtu/hr reboiler heater

Company Equipment ID: DHY1

Company Equipment Description: 20 MMCFD TEG dehydration unit w/reboiler overheads condenser, glycol flash separator, two (2) Kimray Model 21015PV glycol circulation pumps, and 0.6 MMBtu/hr reboiler heater

Operating Status: Operating

Initial Construction Commencement 01/27/2015
Date:

Initial Operation Commencement 01/27/2015
Date:

Most Recent
Construction/Modification
Commencement Date:

Most Recent Operation
Commencement Date:

- Permitted Emissions

Pollutant	Potential Emissions (Lbs/hour)	Potential Emissions (Tons/Year)	Allowable Emissions (Lbs/Hour)	Allowable Emissions (Tons/Year)	Comments
-----------	--------------------------------	---------------------------------	--------------------------------	---------------------------------	----------

- Processes

- Emission Process Information

Process ID: PRC002

Process Name: TEG dehydration unit

Company Process Description: TEG dehydration unit

Source Classification Code (SCC): 3-10-002-27

Control equipment(s) directly associated with this process

CON001

Emission Unit : ENG001

Sep 9 2015, 08:42:22

- Emission Unit Information

AQD Emissions Unit ID: ENG001

Emission Unit Type: Engine

Name Plate Rating: 57.00

Units: hp

Site Rating: 57.00

Units: hp

Primary Fuel Type: Diesel

Secondary Fuel Type: Diesel

Model Name and Number: DCA-45USI2 (Isuzu 4JJ1T)

Engine: Compression Ignition

AQD Description:

Company Equipment ID: ENG001

Company Equipment Description: 57-hp WhisperWatt portable diesel generator engine

Operating Status: Not Yet Installed

Initial Construction Commencement

Date:

Initial Operation Commencement

Date:

Most Recent

Construction/Modification

Commencement Date:

Most Recent Operation

Commencement Date:

- Serial Number Tracking

Serial Number	Manufacturer Name	Construction/Installation Commencement Date	Operation Commencement/Start-up Date	Order Date	Manufacture Date	Shutdown Date	Removal Date
8202006	WhisperWatt/Isuzu						

- Permitted Emissions

Pollutant	Potential Emissions (Lbs/hour)	Potential Emissions (Tons/Year)	Allowable Emissions (Lbs/Hour)	Allowable Emissions (Tons/Year)	Comments
-----------	--------------------------------	---------------------------------	--------------------------------	---------------------------------	----------

- Processes

- Emission Process Information

Process ID: PROC029

Process Name: diesel generator

Company Process Description: diesel generator

Source Classification Code (SCC): 2-02-001-02

Release points(s) directly associated with this process

VER009

Emission Unit : FLR001

Sep 9 2015, 08:42:22

- Emission Unit Information

AQD Emissions Unit ID: FLR001

Emission Unit Type: Flare

Maximum Design Capacity: 20000000.0

Units : scf/day

Minimum Design Capacity: 0.01

Units : scf/day

Pilot Gas Volume (scf/min): 1.0800

AQD Description: Flare to control dehydration unit and for emergency/upset/maintenance activities

Company Equipment ID: FL1

Company Equipment Description: Flare to control dehydration unit and for emergency/upset/maintenance activities

Operating Status: Operating

Initial Construction Commencement 01/27/2015
Date:

Initial Operation Commencement 01/27/2015
Date:

Most Recent
Construction/Modification
Commencement Date:

Most Recent Operation
Commencement Date:

- Permitted Emissions

Pollutant	Potential Emissions (Lbs/hour)	Potential Emissions (Tons/Year)	Allowable Emissions (Lbs/Hour)	Allowable Emissions (Tons/Year)	Comments
-----------	--------------------------------------	---------------------------------------	--------------------------------------	---------------------------------------	----------

- Processes

- Emission Process Information

Process ID: PROC01

Process Name: flare

Company Process Description: flare

Source Classification Code (SCC): 3-10-001-60

Release points(s) directly associated with this process

VER001

Emission Unit : FLR002

Sep 9 2015, 08:42:22

- Emission Unit Information

AQD Emissions Unit ID: FLR002

Emission Unit Type: Flare

Maximum Design Capacity: 31000.0

Units : scf/day

Minimum Design Capacity: 6000.0

Units : scf/day

Pilot Gas Volume (scf/min): 0.2800

AQD Description: 48" x 12' Cimarron standard enclosed combustion device

Company Equipment ID: FL2

Company Equipment Description: 48" x 12' Cimarron standard enclosed combustion device

Operating Status: Operating

Initial Construction Commencement Date: 01/27/2015

Initial Operation Commencement Date: 01/27/2015

Most Recent
Construction/Modification
Commencement Date:

Most Recent Operation
Commencement Date:

- Permitted Emissions

Pollutant	Potential Emissions (Lbs/hour)	Potential Emissions (Tons/Year)	Allowable Emissions (Lbs/Hour)	Allowable Emissions (Tons/Year)	Comments
-----------	--------------------------------------	---------------------------------------	--------------------------------------	---------------------------------------	----------

- Processes

- Emission Process Information

Process ID: PRC006

Process Name: 48"x12' LV Cimarron ECD

Company Process Description: 48"x12' LV Cimarron ECD

Source Classification Code (SCC): 3-10-001-60

Release points(s) directly associated with this process

VER002

Emission Unit : FLR003

Sep 9 2015, 08:42:22

- Emission Unit Information

AQD Emissions Unit ID: FLR003

Emission Unit Type: Flare

Maximum Design Capacity: 31000.0

Units: scf/day

Minimum Design Capacity: 6000.0

Units: scf/day

Pilot Gas Volume (scf/min): 0.2800

AQD Description: 48" x 12' Cimarron standard enclosed combustion device (Water Transfer Facility)

Company Equipment ID: FL3

Company Equipment Description: 48" x 12' Cimarron standard enclosed combustion device

Operating Status: Not Yet Installed

Initial Construction Commencement

Date:

Initial Operation Commencement

Date:

Most Recent

Construction/Modification

Commencement Date:

Most Recent Operation

Commencement Date:

- Permitted Emissions

Pollutant	Potential Emissions (Lbs/hour)	Potential Emissions (Tons/Year)	Allowable Emissions (Lbs/Hour)	Allowable Emissions (Tons/Year)	Comments
-----------	--------------------------------	---------------------------------	--------------------------------	---------------------------------	----------

- Processes

- Emission Process Information

Process ID: PROC009

Process Name: 48"x12' LV Cimarron ECD

Company Process Description: 48"x12' LV Cimarron ECD

Source Classification Code (SCC): 3-10-001-60

Release points(s) directly associated with this process

VER003

Emission Unit : FUG001

Sep 9 2015, 08:42:22

- Emission Unit Information

AQD Emissions Unit ID: FUG001

Emission Unit Type: Fugitive

AQD Description: process fugitives

Company Equipment ID: FUG1

Company Equipment Description: process fugitives

Operating Status: Operating

Initial Construction Commencement Date: 01/27/2015

Initial Operation Commencement Date: 01/27/2015

Most Recent
Construction/Modification
Commencement Date:

Most Recent Operation
Commencement Date:

- Permitted Emissions

Pollutant	Potential Emissions (Lbs/hour)	Potential Emissions (Tons/Year)	Allowable Emissions (Lbs/Hour)	Allowable Emissions (Tons/Year)	Comments
-----------	--------------------------------------	---------------------------------------	--------------------------------------	---------------------------------------	----------

- Processes

- Emission Process Information

Process ID: PROC022

Process Name: fugitive emissions

Company Process Description: fugitive emissions

Source Classification Code (SCC): 3-10-888-11

Emission Unit : HET001

Sep 9 2015, 08:42:22

- Emission Unit Information

AQD Emissions Unit ID: HET001

Emission Unit Type: Heater/Chiller

Firing Type: Indirect

Heat Input Rating: 0.5

Units: MMBtu/hr

Primary Fuel Type: Field Gas

Secondary Fuel Type: Field Gas

Heat Content of Fuel (BTU/scf): 1565

AQD Description: 0.5 MMBtu/hr tank heater

Company Equipment ID: HET1

Company Equipment Description: tank heater

Operating Status: Operating

Initial Construction Commencement Date: 01/27/2015

Initial Operation Commencement Date: 01/27/2015

Most Recent
Construction/Modification
Commencement Date:

Most Recent Operation
Commencement Date:

- Permitted Emissions

Pollutant	Potential Emissions (Lbs/hour)	Potential Emissions (Tons/Year)	Allowable Emissions (Lbs/Hour)	Allowable Emissions (Tons/Year)	Comments
-----------	--------------------------------------	---------------------------------------	--------------------------------------	---------------------------------------	----------

- Processes

- Emission Process Information

Process ID: PRC021

Process Name: tank heater

Company Process Description: tank heater

Source Classification Code (SCC): 3-10-004-04

Release points(s) directly associated with this process

VER004

Emission Unit : HET002

Sep 9 2015, 08:42:22

- Emission Unit Information

AQD Emissions Unit ID: HET002

Emission Unit Type: Heater/Chiller

Firing Type: Indirect

Heat Input Rating: 0.5

Units: MMBtu/hr

Primary Fuel Type: Field Gas

Secondary Fuel Type: Field Gas

Heat Content of Fuel (BTU/scf): 1565

AQD Description: 0.5 MMBtu/hr Tank Heater

Company Equipment ID: HET2

Company Equipment Description: tank heater

Operating Status: Operating

Initial Construction Commencement Date: 01/27/2015

Initial Operation Commencement Date: 01/27/2015

Most Recent
Construction/Modification
Commencement Date:

Most Recent Operation
Commencement Date:

- Permitted Emissions

Pollutant	Potential Emissions (Lbs/hour)	Potential Emissions (Tons/Year)	Allowable Emissions (Lbs/Hour)	Allowable Emissions (Tons/Year)	Comments
-----------	--------------------------------------	---------------------------------------	--------------------------------------	---------------------------------------	----------

- Processes

- Emission Process Information

Process ID: PRC020

Process Name: tank heater

Company Process Description: tank heater

Source Classification Code (SCC): 3-10-004-04

Release points(s) directly associated with this process

VER005

Emission Unit : HET003

Sep 9 2015, 08:42:22

- Emission Unit Information

AQD Emissions Unit ID: HET003
Emission Unit Type: Heater/Chiller
Firing Type: Indirect
Heat Input Rating: 0.5
Units: MMBtu/hr
Primary Fuel Type: Field Gas
Secondary Fuel Type: Field Gas
Heat Content of Fuel (BTU/scf): 1565
AQD Description: 0.5 MMBtu/hr tank heater
Company Equipment ID: HET3
Company Equipment Description: tank heater
Operating Status: Not Yet Installed
Initial Construction Commencement
Date:
Initial Operation Commencement
Date:
Most Recent
Construction/Modification
Commencement Date:
Most Recent Operation
Commencement Date:

- Permitted Emissions

Pollutant	Potential Emissions (Lbs/hour)	Potential Emissions (Tons/Year)	Allowable Emissions (Lbs/Hour)	Allowable Emissions (Tons/Year)	Comments
-----------	--------------------------------------	---------------------------------------	--------------------------------------	---------------------------------------	----------

- Processes

- Emission Process Information

Process ID: PROC019
Process Name: tank heater
Company Process Description: tank heater
Source Classification Code (SCC): 3-10-004-04

Release points(s) directly associated with this process

VER006

Emission Unit : HET004

Sep 9 2015, 08:42:22

- Emission Unit Information

AQD Emissions Unit ID: HET004

Emission Unit Type: Heater/Chiller

Firing Type: Indirect

Heat Input Rating: 0.25

Units: MMBtu/hr

Primary Fuel Type: Field Gas

Secondary Fuel Type: Field Gas

Heat Content of Fuel (BTU/scf): 1565

AQD Description: 0.25 MMBtu/hr Line Heater

Company Equipment ID: HET4

Company Equipment Description: line heater

Operating Status: Not Yet Installed

Initial Construction Commencement

Date:

Initial Operation Commencement

Date:

Most Recent
Construction/Modification

Commencement Date:

Most Recent Operation

Commencement Date:

- Permitted Emissions

Pollutant	Potential Emissions (Lbs/hour)	Potential Emissions (Tons/Year)	Allowable Emissions (Lbs/Hour)	Allowable Emissions (Tons/Year)	Comments
-----------	--------------------------------------	---------------------------------------	--------------------------------------	---------------------------------------	----------

- Processes

- Emission Process Information

Process ID: PRC018

Process Name: Line Heater

Company Process Description: Line Heater

Source Classification Code (SCC): 3-10-004-04

Release points(s) directly associated with this process

VER007

Emission Unit : HET005

Sep 9 2015, 08:42:22

- Emission Unit Information

AQD Emissions Unit ID: HET005

Emission Unit Type: Heater/Chiller

Firing Type: Indirect

Heat Input Rating: 0.6

Units: MMBtu/hr

Primary Fuel Type: Field Gas

Secondary Fuel Type: Field Gas

Heat Content of Fuel (BTU/scf): 1565

AQD Description: 0.6 MMBtu/hr reboiler heater

Company Equipment ID: HET5

Company Equipment Description: reboiler heater

Operating Status: Operating

Initial Construction Commencement Date: 01/27/2015

Initial Operation Commencement Date: 01/27/2015

Most Recent
Construction/Modification
Commencement Date:

Most Recent Operation
Commencement Date:

- Permitted Emissions

Pollutant	Potential Emissions (Lbs/hour)	Potential Emissions (Tons/Year)	Allowable Emissions (Lbs/Hour)	Allowable Emissions (Tons/Year)	Comments
-----------	--------------------------------------	---------------------------------------	--------------------------------------	---------------------------------------	----------

- Processes

- Emission Process Information

Process ID: PRC023

Process Name: reboiler heater

Company Process Description: reboiler heater

Source Classification Code (SCC): 3-10-002-28

Release points(s) directly associated with this process

VER008

Emission Unit : LUD001

Sep 9 2015, 08:42:22

- Emission Unit Information

AQD Emissions Unit ID: LUD001

Emission Unit Type: Loading/Unloading/Dump

Type of Material: liquid

Material Description: 60 bbl/day condensate loading

Maximum Annual Throughput: 21900

Units: barrels/yr

AQD Description: truck loading from condensate tanks

Company Equipment ID: TL01

Company Equipment Description: truck loading from condensate tanks

Operating Status: Operating

Initial Construction Commencement 01/27/2015
Date:

Initial Operation Commencement 01/27/2015
Date:

Most Recent
Construction/Modification
Commencement Date:

Most Recent Operation
Commencement Date:

- Permitted Emissions

Pollutant	Potential Emissions (Lbs/hour)	Potential Emissions (Tons/Year)	Allowable Emissions (Lbs/Hour)	Allowable Emissions (Tons/Year)	Comments
-----------	--------------------------------------	---------------------------------------	--------------------------------------	---------------------------------------	----------

- Processes

- Emission Process Information

Process ID: PRC026

Process Name: truck loadout

Company Process Description: truck loadout

Source Classification Code (SCC): 4-06-001-32

Release points(s) directly associated with this process

AVL002

Emission Unit : SEP001

Sep 9 2015, 08:42:22

- Emission Unit Information

AQD Emissions Unit ID: SEP001

Emission Unit Type: Separator/Treater

Type Of Vessel: 3-Phase Separator

is Vessel Heated: No

AQD Description: unheated 9'x30' horizontal inlet separator (slug catcher)

Company Equipment ID: SEP1

Company Equipment Description: unheated 9'x30' horizontal inlet separator (slug catcher)

Operating Status: Operating

Initial Construction Commencement Date: 01/27/2015

Initial Operation Commencement Date: 01/27/2015

Most Recent
Construction/Modification
Commencement Date:

Most Recent Operation
Commencement Date:

- Permitted Emissions

Pollutant	Potential Emissions (Lbs/hour)	Potential Emissions (Tons/Year)	Allowable Emissions (Lbs/Hour)	Allowable Emissions (Tons/Year)	Comments
-----------	--------------------------------------	---------------------------------------	--------------------------------------	---------------------------------------	----------

- Processes

- Emission Process Information

Process ID: PROC24

Process Name: inlet separator

Company Process Description: inlet separator

Source Classification Code (SCC): 3-10-001-07

Emission Unit : SEP002

Sep 9 2015, 08:42:22

- Emission Unit Information

AQD Emissions Unit ID: SEP002

Emission Unit Type: Separator/Treater

Type Of Vessel: 2-Phase Separator

is Vessel Heated: No

AQD Description: unheated 60"x20' horizontal separator (flare knockout)

Company Equipment ID: SEP1

Company Equipment Description: unheated 60"x20' horizontal separator (flare knockout)

Operating Status: Operating

Initial Construction Commencement Date: 01/27/2015

Initial Operation Commencement Date: 01/27/2015

Most Recent
Construction/Modification
Commencement Date:

Most Recent Operation
Commencement Date:

- Permitted Emissions

Pollutant	Potential Emissions (Lbs/hour)	Potential Emissions (Tons/Year)	Allowable Emissions (Lbs/Hour)	Allowable Emissions (Tons/Year)	Comments
-----------	--------------------------------------	---------------------------------------	--------------------------------------	---------------------------------------	----------

- Processes

- Emission Process Information

Process ID: PRC025

Process Name: flare knockout

Company Process Description: flare knockout

Source Classification Code (SCC): 3-10-001-07

Emission Unit : TNK001

Sep 9 2015, 08:42:22

- Emission Unit Information

AQD Emissions Unit ID: TNK001

Emission Unit Type: Storage Tank/Silo

Material Type: Liquid

Description of Material Stored: condensate liquid storage (60 bbls/day total)

Capacity: 400

Units: barrels

Maximum Throughput: 30.0000

Units: barrels/day

AQD Description: 400-bbl condensate storage tank

Company Equipment ID: T1

Company Equipment Description: 400-bbl condensate storage tank

Operating Status: Operating

Initial Construction Commencement 01/27/2015
Date:

Initial Operation Commencement 01/27/2015
Date:

Most Recent
Construction/Modification
Commencement Date:

Most Recent Operation
Commencement Date:

- Permitted Emissions

Pollutant	Potential Emissions (Lbs/hour)	Potential Emissions (Tons/Year)	Allowable Emissions (Lbs/Hour)	Allowable Emissions (Tons/Year)	Comments
-----------	--------------------------------------	---------------------------------------	--------------------------------------	---------------------------------------	----------

- Processes

- Emission Process Information

Process ID: PRC003

Process Name: condensate storage tank

Company Process Description: condensate storage tank

Source Classification Code (SCC): 4-04-003-11

Control equipment(s) directly associated with this process

FLA002

Emission Unit : TNK002

Sep 9 2015, 08:42:22

- Emission Unit Information

AQD Emissions Unit ID: TNK002

Emission Unit Type: Storage Tank/Silo

Material Type: Liquid

Description of Material Stored: condensate liquid storage (60 bbls/day total)

Capacity: 400

Units: barrels

Maximum Throughput: 30.0000

Units: barrels/day

AQD Description: 400-bbl condensate storage tank

Company Equipment ID: T2

Company Equipment Description: 400-bbl condensate storage tank

Operating Status: Not Yet Installed

Initial Construction Commencement

Date:

Initial Operation Commencement

Date:

Most Recent

Construction/Modification

Commencement Date:

Most Recent Operation

Commencement Date:

- Permitted Emissions

Pollutant	Potential Emissions (Lbs/hour)	Potential Emissions (Tons/Year)	Allowable Emissions (Lbs/Hour)	Allowable Emissions (Tons/Year)	Comments
-----------	--------------------------------	---------------------------------	--------------------------------	---------------------------------	----------

- Processes

- Emission Process Information

Process ID: PRC004

Process Name: condensate storage tank

Company Process Description: condensate storage tank

Source Classification Code (SCC): 4-04-003-11

Control equipment(s) directly associated with this process

FLA002

Emission Unit : TNK003

Sep 9 2015, 08:42:22

- Emission Unit Information

AQD Emissions Unit ID: TNK003

Emission Unit Type: Storage Tank/Silo

Material Type: Liquid

Description of Material Stored: water storage tank (25 bbls/day total)

Capacity: 400

Units: barrels

Maximum Throughput: 25.0000

Units: barrels/day

AQD Description: 400-bbl water storage tank

Company Equipment ID: T3

Company Equipment Description: 400-bbl water storage tank

Operating Status: Operating

Initial Construction Commencement 01/27/2015
Date:

Initial Operation Commencement 01/27/2015
Date:

Most Recent
Construction/Modification
Commencement Date:

Most Recent Operation
Commencement Date:

- Permitted Emissions

Pollutant	Potential Emissions (Lbs/hour)	Potential Emissions (Tons/Year)	Allowable Emissions (Lbs/Hour)	Allowable Emissions (Tons/Year)	Comments
-----------	--------------------------------------	---------------------------------------	--------------------------------------	---------------------------------------	----------

- Processes

- Emission Process Information

Process ID: PRC005

Process Name: produced water storage tank

Company Process Description: produced water storage tank

Source Classification Code (SCC): 4-04-003-15

Control equipment(s) directly associated with this process

FLA002

Emission Unit : TNK004

Sep 9 2015, 08:42:22

- Emission Unit Information

AQD Emissions Unit ID: TNK004

Emission Unit Type: Storage Tank/Silo

Material Type: Liquid

Description of Material Stored: methanol

Capacity: 6000

Units: gallons

Maximum Throughput: 54000.0000

Units: gallons/yr

AQD Description: 6000 gallon storage tank

Company Equipment ID: T4

Company Equipment Description: 6000 gallon methanol storage tank

Operating Status: Not Yet Installed

Initial Construction Commencement

Date:

Initial Operation Commencement

Date:

Most Recent
Construction/Modification

Commencement Date:

Most Recent Operation

Commencement Date:

- Permitted Emissions

Pollutant	Potential Emissions (Lbs/hour)	Potential Emissions (Tons/Year)	Allowable Emissions (Lbs/Hour)	Allowable Emissions (Tons/Year)	Comments
-----------	--------------------------------------	---------------------------------------	--------------------------------------	---------------------------------------	----------

- Processes

- Emission Process Information

Process ID: PRC008

Process Name: methanol storage tank

Company Process Description: methanol storage tank

Source Classification Code (SCC): 4-07-008-16

Release points(s) directly associated with this process

AVL001

Emission Unit : TNK005

Sep 9 2015, 08:42:22

- Emission Unit Information

AQD Emissions Unit ID: TNK005

Emission Unit Type: Storage Tank/Silo

Material Type: Liquid

Description of Material Stored: methanol

Capacity: 6000

Units: gallons

Maximum Throughput: 54000.0000

Units: gallons/yr

AQD Description: 6000 gallon methanol storage tank

Company Equipment ID: T5

Company Equipment Description: 6000 gallon methanol storage tank

Operating Status: Not Yet Installed

Initial Construction Commencement
Date:

Initial Operation Commencement
Date:

Most Recent
Construction/Modification
Commencement Date:

Most Recent Operation
Commencement Date:

- Permitted Emissions

Pollutant	Potential Emissions (Lbs/hour)	Potential Emissions (Tons/Year)	Allowable Emissions (Lbs/Hour)	Allowable Emissions (Tons/Year)	Comments
-----------	--------------------------------------	---------------------------------------	--------------------------------------	---------------------------------------	----------

- Processes

- Emission Process Information

Process ID: PRC007

Process Name: methanol storage tank

Company Process Description: methanol storage tank

Source Classification Code (SCC): 4-07-008-16

Release points(s) directly associated with this process

AVL001

Emission Unit : TNK006

Sep 9 2015, 08:42:22

- Emission Unit Information

AQD Emissions Unit ID: TNK006

Emission Unit Type: Storage Tank/Silo

Material Type: Liquid

Description of Material Stored: water storage tank

Capacity: 500

Units: barrels

Maximum Throughput: 4000.0000

Units: barrels/day

AQD Description: 500-bbl water storage tank

Company Equipment ID: T6

Company Equipment Description: 500-bbl water storage tank

Operating Status: Not Yet Installed

Initial Construction Commencement
Date:

Initial Operation Commencement
Date:

Most Recent
Construction/Modification
Commencement Date:

Most Recent Operation
Commencement Date:

- Permitted Emissions

Pollutant	Potential Emissions (Lbs/hour)	Potential Emissions (Tons/Year)	Allowable Emissions (Lbs/Hour)	Allowable Emissions (Tons/Year)	Comments
-----------	--------------------------------------	---------------------------------------	--------------------------------------	---------------------------------------	----------

- Processes

- Emission Process Information

Process ID: FRC010

Process Name: produced water storage tank

Company Process Description: produced water storage tank

Source Classification Code (SCC): 4-01-003-15

Control equipment(s) directly associated with this process

FLA003

Emission Unit : TNK007

Sep 9 2015, 08:42:22

- Emission Unit Information

AQD Emissions Unit ID: TNK007

Emission Unit Type: Storage Tank/Silo

Material Type: Liquid

Description of Material Stored: water storage tank

Capacity: 500

Units: barrels

Maximum Throughput: 4000.0000

Units: barrels/day

AQD Description: 500-bbl water storage tank

Company Equipment ID: T7

Company Equipment Description: 500-bbl water storage tank

Operating Status: Not Yet Installed

Initial Construction Commencement

Date:

Initial Operation Commencement

Date:

Most Recent

Construction/Modification

Commencement Date:

Most Recent Operation

Commencement Date:

- Permitted Emissions

Pollutant	Potential Emissions (Lbs/hour)	Potential Emissions (Tons/Year)	Allowable Emissions (Lbs/Hour)	Allowable Emissions (Tons/Year)	Comments

- Processes

- Emission Process Information

Process ID: PRC011

Process Name: produced water storage tank

Company Process Description: produced water storage tank

Source Classification Code (SCC): 4-04-003-15

Control equipment(s) directly associated with this process

FLA003

Emission Unit : TNK008

Sep 9 2015, 08:42:22

- Emission Unit Information

AQD Emissions Unit ID: TNK008

Emission Unit Type: Storage Tank/Silo

Material Type: Liquid

Description of Material Stored: water storage tank

Capacity: 500

Units: barrels

Maximum Throughput: 4000.0000

Units: barrels/day

AQD Description: 500-bbl water storage tank

Company Equipment ID: T8

Company Equipment Description: 500-bbl water storage tank

Operating Status: Not Yet Installed

Initial Construction Commencement

Date:

Initial Operation Commencement

Date:

Most Recent
Construction/Modification

Commencement Date:

Most Recent Operation

Commencement Date:

- Permitted Emissions

Pollutant	Potential Emissions (Lbs/hour)	Potential Emissions (Tons/Year)	Allowable Emissions (Lbs/Hour)	Allowable Emissions (Tons/Year)	Comments
-----------	--------------------------------------	---------------------------------------	--------------------------------------	---------------------------------------	----------

- Processes

- Emission Process Information

Process ID: PRC012

Process Name: produced water storage tank

Company Process Description: produced water storage tank

Source Classification Code (SCC): 4-04-003-15

Control equipment(s) directly associated with this process

FLA003

Emission Unit : TNK009

Sep 9 2015, 08:42:22

- Emission Unit Information

AQD Emissions Unit ID: TNK009

Emission Unit Type: Storage Tank/Silo

Material Type: Liquid

Description of Material Stored: water storage tank

Capacity: 500

Units: barrels

Maximum Throughput: 4000.0000

Units: barrels/day

AQD Description: 500-bbl water storage tank

Company Equipment ID: T9

Company Equipment Description: 500-bbl water storage tank

Operating Status: Not Yet Installed

Initial Construction Commencement
Date:

Initial Operation Commencement
Date:

Most Recent
Construction/Modification
Commencement Date:

Most Recent Operation
Commencement Date:

- Permitted Emissions

Pollutant	Potential Emissions (Lbs/hour)	Potential Emissions (Tons/Year)	Allowable Emissions (Lbs/Hour)	Allowable Emissions (Tons/Year)	Comments
-----------	--------------------------------------	---------------------------------------	--------------------------------------	---------------------------------------	----------

- Processes

- Emission Process Information

Process ID: PRC013

Process Name: produced water storage tank

Company Process Description: produced water storage tank

Source Classification Code (SCC): 4-04-003-15

Control equipment(s) directly associated with this process

FLA003

Emission Unit : TNK010

Sep 9 2015, 08:42:22

- Emission Unit Information

AQD Emissions Unit ID: TNK010

Emission Unit Type: Storage Tank/Silo

Material Type: Liquid

Description of Material Stored: water storage tank

Capacity: 500

Units: barrels

Maximum Throughput: 4000.0000

Units: barrels/day

AQD Description: 500-bbl water storage tank

Company Equipment ID: T10

Company Equipment Description: 500-bbl water storage tank

Operating Status: Not Yet Installed

Initial Construction Commencement

Date:

Initial Operation Commencement

Date:

Most Recent

Construction/Modification

Commencement Date:

Most Recent Operation

Commencement Date:

- Permitted Emissions

Pollutant	Potential Emissions (Lbs/hour)	Potential Emissions (Tons/Year)	Allowable Emissions (Lbs/Hour)	Allowable Emissions (Tons/Year)	Comments
-----------	--------------------------------	---------------------------------	--------------------------------	---------------------------------	----------

- Processes

- Emission Process Information

Process ID: FRC014

Process Name: produced water storage tank

Company Process Description: produced water storage tank

Source Classification Code (SCC): 4-04-003-15

Control equipment(s) directly associated with this process

FLA003

Emission Unit : TNK011

Sep 9 2015, 08:42:22

- Emission Unit Information

AQD Emissions Unit ID: TNK011

Emission Unit Type: Storage Tank/Silo

Material Type: Liquid

Description of Material Stored: corrosion inhibitor

Capacity: 6000

Units: gallons

Maximum Throughput: 72000.0000

Units: gallons/yr

AQD Description: 6000 gallon storage tank

Company Equipment ID: T11

Company Equipment Description: 6000 gallon storage tank

Operating Status: Not Yet Installed

Initial Construction Commencement
Date:

Initial Operation Commencement
Date:

Most Recent
Construction/Modification
Commencement Date:

Most Recent Operation
Commencement Date:

- Permitted Emissions

Pollutant	Potential Emissions (Lbs/hour)	Potential Emissions (Tons/Year)	Allowable Emissions (Lbs/Hour)	Allowable Emissions (Tons/Year)	Comments
-----------	--------------------------------------	---------------------------------------	--------------------------------------	---------------------------------------	----------

- Processes

- Emission Process Information

Process ID: PRC015

Process Name: chemical tank

Company Process Description: chemical tank

Source Classification Code (SCC): 4-07-999-99

Release points(s) directly associated with this process

AVL001

Emission Unit : TNK012

Sep 9 2015, 08:42:22

- Emission Unit Information

AQD Emissions Unit ID: TNK012

Emission Unit Type: Storage Tank/Silo

Material Type: Liquid

Description of Material Stored: paraffin inhibitor

Capacity: 6000

Units: gallons

Maximum Throughput: 72000.0000

Units: gallons/yr

AQD Description: 6000 gallon storage tank

Company Equipment ID: T12

Company Equipment Description: 6000 gallon storage tank

Operating Status: Not Yet Installed

Initial Construction Commencement
Date:

Initial Operation Commencement
Date:

Most Recent
Construction/Modification
Commencement Date:

Most Recent Operation
Commencement Date:

- Permitted Emissions

Pollutant	Potential Emissions (Lbs/hour)	Potential Emissions (Tons/Year)	Allowable Emissions (Lbs/Hour)	Allowable Emissions (Tons/Year)	Comments
-----------	--------------------------------------	---------------------------------------	--------------------------------------	---------------------------------------	----------

- Processes

- Emission Process Information

Process ID: PRC016

Process Name: chemical tank

Company Process Description: chemical tank

Source Classification Code (SCC): 4-07-999-99

Release points(s) directly associated with this process

AVL001

Emission Unit : TNK013

Sep 9 2015, 08:42:22

- Emission Unit Information

AQD Emissions Unit ID: TNK013

Emission Unit Type: Storage Tank/Silo

Material Type: Liquid

Description of Material Stored: emulsion breaker

Capacity: 6000

Units: gallons

Maximum Throughput: 72000.0000

Units: gallons/yr

AQD Description: 6000 gallon storage tank

Company Equipment ID: T13

Company Equipment Description: 6000 gallon storage tank

Operating Status: Not Yet Installed

Initial Construction Commencement

Date:

Initial Operation Commencement

Date:

Most Recent

Construction/Modification

Commencement Date:

Most Recent Operation

Commencement Date:

- Permitted Emissions

Pollutant	Potential Emissions (Lbs/hour)	Potential Emissions (Tons/Year)	Allowable Emissions (Lbs/Hour)	Allowable Emissions (Tons/Year)	Comments
-----------	--------------------------------	---------------------------------	--------------------------------	---------------------------------	----------

- Processes

- Emission Process Information

Process ID: PROC017

Process Name: chemical tank

Company Process Description: chemical tank

Source Classification Code (SCC): 4-07-999-99

Release points(s) directly associated with this process

AVL001

Control Equipment : CON001

Sep 9 2015, 08:42:22

- Control Equipment Information

Equipment Type: Condenser

Control Equipment ID: CON001

AQD Description: reboiler overheads condenser

Company Control Equipment ID: CON1

Company Control Equipment Description: reboiler overheads condenser

Operating Status: Operating

Initial Installation Date: 01/27/2015

Manufacturer:

Model:

- Specific Equipment Type information

Condenser Type: Indirect Contact

Coolant Type: atmospheric air

Design Coolant Temp Range:

Design Coolant Flow Rate:

Max. Exhaust Gas Temp: 100

Inlet Gas Flow Rate:

Outlet Gas Flow Rate:

Inlet Gas Temp:

Operating Pressure: 12

Outlet Gas Temp:

- Pollutants Controlled

Pollutant	Design Control Efficiency(%)	Operating Control Efficiency(%)	Capture Efficiency(%)	Total Capture Control(%)
Total HAP Pollutants	98	98	100	98
VOC - Volatile Organic Compounds	98	98	100	98

- Associated Control Equipments And Release Points

Control equipment(s) directly associated with this control equipment

FLA001

Control Equipment : FLA001

Sep 9 2015, 08:42:22

- Control Equipment Information

Equipment Type: Flare

Control Equipment ID: FLA001

AQD Description: 60 ft Flare Industries flare

Company Control Equipment ID: FL1

Company Control Equipment Description:
60 ft Flare Industries flare

Operating Status: Operating

Initial Installation Date: 01/27/2015

Manufacturer: Flare Industries

Model:

- Specific Equipment Type information

Flare Type: Elevated - Open

Elevated Flare Type: Air-Assisted

Ignition Device: Yes

Flame Presence Sensor: Yes

Inlet Gas Temp:

Flame Presence Type: Thermocouple

Gas Flow Rate:

Sec. Outlet Gas Temp:

- Pollutants Controlled

Pollutant	Design Control Efficiency(%)	Operating Control Efficiency(%)	Capture Efficiency(%)	Total Capture Control(%)
Total HAP Pollutants	98	98	100	98
VOC - Volatile Organic Compounds	98	98	100	98

- Associated Control Equipments And Release Points

Release points(s) directly associated with this control equipment

VER001

Control Equipment : FLA002

Sep 9 2015, 08:42:22

- Control Equipment Information

Equipment Type: Flare

Control Equipment ID: FLA002

AQD Description: 48"x12' LV Cimarron ECD

Company Control Equipment ID: FL2

Company Control Equipment 48"x12' LV Cimarron ECD
Description:

Operating Status: Operating

Initial Installation Date: 01/27/2015

Manufacturer: Cimarron

Model: 48"x12' LV

- Specific Equipment Type information

Flare Type: Enclosed

Elevated Flare Type: Non-Assisted

Ignition Device: Yes

Flame Presence Sensor: Yes

Inlet Gas Temp:

Flame Presence Type: Thermocouple

Gas Flow Rate:

Sec. Outlet Gas Temp:

- Pollutants Controlled

Pollutant	Design Control Efficiency(%)	Operating Control Efficiency(%)	Capture Efficiency(%)	Total Capture Control(%)
Total HAP Pollutants	98	98	100	98
VOC - Volatile Organic Compounds	98	98	100	98

- Associated Control Equipments And Release Points

Release points(s) directly associated with this control equipment

VER002

Control Equipment : FLA003

Sep 9 2015, 08:42:22

- Control Equipment Information

Equipment Type: Flare

Control Equipment ID: FLA003

AQD Description: 48"x12' LV Cimarron ECD

Company Control Equipment ID: FL3

Company Control Equipment 48"x12' LV Cimarron ECD
Description:

Operating Status: Not Operating

Initial Installation Date:

Manufacturer: Cimarron

Model: 48"x12' LV

- Specific Equipment Type information

Flare Type: Enclosed

Elevated Flare Type: Non-Assisted

Ignition Device: Yes

Flame Presence Sensor: Yes

Inlet Gas Temp:

Flame Presence Type: Thermocouple

Gas Flow Rate:

Sec. Outlet Gas Temp:

- Pollutants Controlled

Pollutant	Design Control Efficiency(%)	Operating Control Efficiency(%)	Capture Efficiency(%)	Total Capture Control(%)
Total HAP Pollutants	98	100	98	98
VOC - Volatile Organic Compounds	98	100	98	98

- Associated Control Equipments And Release Points

Release points(s) directly associated with this control equipment

VER003

Release Point : AVL002

Sep 9 2015, 08:42:22

- Release Point Information

Release Point ID: AVL002

Release Type: Fugitive (Area, Volume, Line)

AQD Description: truck loading - condensate tanks

Company Release Point ID: AVL2

Company Release Point Description: truck loading - condensate tanks

Operating Status: Operating

Release Height (ft): 3.0

- Release Latitude and Longitude

Latitude: 41.0536

Longitude: -104.605

- CEM Data

Description	H2S	SO2	NOX	CO	THC	HCL	HFL	O	TRS	CO2	FLOW	OPACITY	PM
-------------	-----	-----	-----	----	-----	-----	-----	---	-----	-----	------	---------	----

Release Point : AVL001

Sep 9 2015, 08:42:22

- Release Point Information

Release Point ID: AVL001

Release Type: Fugitive (Area, Volume, Line)

AQD Description: methanol storage tank

Company Release Point ID: FUG1

Company Release Point Description: methanol storage tank

Operating Status: Operating

Release Height (ft): 10.0

- Release Latitude and Longitude

Latitude: 41.0536

Longitude: -104.605

- CEM Data

Description	H2S	SO2	NOX	CO	THC	HCL	HFL	O	TRS	CO2	FLOW	OPACITY	PM
-------------	-----	-----	-----	----	-----	-----	-----	---	-----	-----	------	---------	----

Release Point : VER001

Sep 9 2015, 08:42:22

- Release Point Information

Release Point ID: VER001

Release Type: Vertical

AQD Description: Flare Stack

Company Release Point ID: VER1

Company Release Point Description: Flare Stack

Operating Status: Operating

Base Elevation (ft): 5920.0

- Stack Details

Stack Height (ft): 60.0

Stack Diameter (ft): 6.0

Exit Gas Velocity (ft/s): 2.46

Exit Gas Flow Rate (acfm): 4167.0

Exit Gas Temp (F): 1400.0

- Release Latitude and Longitude

Latitude: 41.0536

Longitude: -104.605

- CEM Data

Description	H2S	SO2	NOX	CO	THC	HCL	HFL	O	TRS	CO2	FLOW	OPACITY	PM
-------------	-----	-----	-----	----	-----	-----	-----	---	-----	-----	------	---------	----

Release Point : VER009

Sep 9 2015, 08:42:22

- Release Point Information

Release Point ID: VER009

Release Type: Vertical

AQD Description:

Company Release Point ID: VER1

Company Release Point Description: Exhaust Stack

Operating Status: Not Operating

Base Elevation (ft): 5983.0

- Stack Details

Stack Height (ft): 10.0

Stack Diameter (ft): 0.25

Exit Gas Velocity (ft/s): 120.0

Exit Gas Flow Rate (acfm): 353.0

Exit Gas Temp (F): 900.0

- Release Latitude and Longitude

Latitude: 41.0536

Longitude: -104.605

- CEM Data

Description	H2S	SO2	NOX	CO	THC	HCL	HFL	O	TRS	CO2	FLOW	OPACITY	PM
-------------	-----	-----	-----	----	-----	-----	-----	---	-----	-----	------	---------	----

Release Point : VER002

Sep 9 2015, 08:42:22

- Release Point Information

Release Point ID: VER002

Release Type: Vertical

AQD Description: 48"x12' LV Cimarron ECD

Company Release Point ID: VER2

Company Release Point Description: 48"x12' LV Cimarron ECD

Operating Status: Operating

Base Elevation (ft): 5920.0

- Stack Details

Stack Height (ft): 12.0

Stack Diameter (ft): 4.0

Exit Gas Velocity (ft/s): 44.7

Exit Gas Flow Rate (acfm): 16.8

Exit Gas Temp (F): 1400.0

- Release Latitude and Longitude

Latitude: 41.0536

Longitude: -104.605

- CEM Data

Description	H2S	SO2	NOX	CO	THC	HCL	HFL	O	TRS	CO2	FLOW	OPACITY	PM
-------------	-----	-----	-----	----	-----	-----	-----	---	-----	-----	------	---------	----

Release Point : VER003

Sep 9 2015, 08:42:22

- Release Point Information

Release Point ID: VER003

Release Type: Vertical

AQD Description: 48"x12' LV Cimarron ECD

Company Release Point ID: VER3

Company Release Point Description: 48"x12' LV Cimarron ECD

Operating Status: Operating

Base Elevation (ft): 5920.0

- Stack Details

Stack Height (ft): 12.0

Stack Diameter (ft): 4.0

Exit Gas Velocity (ft/s): 44.7

Exit Gas Flow Rate (acfm): 16.8

Exit Gas Temp (F): 1400.0

- Release Latitude and Longitude

Latitude: 41.0536

Longitude: -104.605

- CEM Data

Description	H2S	SO2	NOX	CO	THC	HCL	HFL	O	TRS	CO2	FLOW	OPACITY	PM
-------------	-----	-----	-----	----	-----	-----	-----	---	-----	-----	------	---------	----

Release Point : VER004

Sep 9 2015, 08:42:22

- Release Point Information

Release Point ID: VER004

Release Type: Vertical

AQD Description: tank heater stack

Company Release Point ID: VER4

Company Release Point Description: tank heater stack

Operating Status: Operating

Base Elevation (ft): 5920.0

- Stack Details

Stack Height (ft): 15.0

Stack Diameter (ft): 1.0

Exit Gas Velocity (ft/s): 50.0

Exit Gas Flow Rate (acfm): 1.0

Exit Gas Temp (F): 600.0

- Release Latitude and Longitude

Latitude: 41.0536

Longitude: -104.605

- CEM Data

Description	H2S	SO2	NOX	CO	THC	HCL	HFL	O	TRS	CO2	FLOW	OPACITY	PM
-------------	-----	-----	-----	----	-----	-----	-----	---	-----	-----	------	---------	----

Release Point : VER005

Sep 9 2015, 08:42:22

- Release Point Information

Release Point ID: VER005

Release Type: Vertical

AQD Description: tank heater stack

Company Release Point ID: VER5

Company Release Point Description: tank heater stack

Operating Status: Operating

Base Elevation (ft): 5920.0

- Stack Details

Stack Height (ft): 15.0

Stack Diameter (ft): 1.0

Exit Gas Velocity (ft/s): 50.0

Exit Gas Flow Rate (acfm): 1.0

Exit Gas Temp (F): 600.0

- Release Latitude and Longitude

Latitude: 41.0536

Longitude: -104.605

- CEM Data

Description	H2S	SO2	NOX	CO	THC	HCL	HFL	O	TRS	CO2	FLOW	OPACITY	PM
-------------	-----	-----	-----	----	-----	-----	-----	---	-----	-----	------	---------	----

Release Point : VER006

Sep 9 2015, 08:42:22

- Release Point Information

Release Point ID: VER006

Release Type: Vertical

AQD Description: tank heater stack

Company Release Point ID: VER6

Company Release Point Description: tank heater stack

Operating Status: Operating

Base Elevation (ft): 5920.0

- Stack Details

Stack Height (ft): 15.0

Stack Diameter (ft): 1.0

Exit Gas Velocity (ft/s): 50.0

Exit Gas Flow Rate (acfm): 1.0

Exit Gas Temp (F): 600.0

- Release Latitude and Longitude

Latitude: 41.0536

Longitude: -104.605

- CEM Data

Description	H2S	SO2	NOX	CO	THC	HCL	HFL	O	TRS	CO2	FLOW	OPACITY	PM
-------------	-----	-----	-----	----	-----	-----	-----	---	-----	-----	------	---------	----

Release Point : VER007

Sep 9 2015, 08:42:22

- Release Point Information

Release Point ID: VER007

Release Type: Vertical

AQD Description: line heater stack

Company Release Point ID: VER7

Company Release Point Description: line heater stack

Operating Status: Operating

Base Elevation (ft): 5920.0

- Stack Details

Stack Height (ft): 15.0

Stack Diameter (ft): 1.0

Exit Gas Velocity (ft/s): 50.0

Exit Gas Flow Rate (acfm): 1.0

Exit Gas Temp (F): 600.0

- Release Latitude and Longitude

Latitude: 41.0536

Longitude: -104.605

- CEM Data

Description	H2S	SO2	NOX	CO	THC	HCL	HFL	O	TRS	CO2	FLOW	OPACITY	PM
-------------	-----	-----	-----	----	-----	-----	-----	---	-----	-----	------	---------	----

Release Point : VER008

Sep 9 2015, 08:42:22

- Release Point Information

Release Point ID: VER008

Release Type: Vertical

AQD Description: reboiler heater stack

Company Release Point ID: VER8

Company Release Point Description: reboiler heater stack

Operating Status: Operating

Base Elevation (ft): 5920.0

- Stack Details

Stack Height (ft): 15.0

Stack Diameter (ft): 1.0

Exit Gas Velocity (ft/s): 50.0

Exit Gas Flow Rate (acfm): 1.0

Exit Gas Temp (F): 600.0

- Release Latitude and Longitude

Latitude: 41.0536

Longitude: -104.605

- CEM Data

Description	H2S	SO2	NOX	CO	THC	HCL	HFL	O	TRS	CO2	FLOW	OPACITY	PM
-------------	-----	-----	-----	----	-----	-----	-----	---	-----	-----	------	---------	----